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ABSTRACT

In 1994, the Chrysalis Project in Portland Public Schools received funding to prevent or delay the onset of substance abuse among a special target population: high-risk, female adolescents with a history of childhood abuse. Findings from the evaluation of the project's second year of providing assistance to these students are reported here. During the 1995-1996 school year, the project served 370 young women in grades 9 through 12. The program operates in all 10 traditional high schools and 2 alternative schools in the district. The evaluation reported here assesses the effectiveness of the specific program intervention strategies. It also documents the process of service delivery and program implementation at the schools to help interpret and give context to the project outcomes. The key findings of the outcome evaluation indicate several significant relationships among different health risk behavior areas (i.e., Chrysalis students who attended more support groups reported lower rates of marijuana use in the past month). The results show relationships among a history of abuse and increased use of alcohol and other drugs, sexual behaviors, violence-related behaviors, and suicide ideation in young women. (RJM)

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Portland Public Schools
Project Chrysalis

Year 2
Evaluation Report

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December 1996

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Portland Public Schools
Project Chrysalis

Year 2 Evaluation Report

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■ ■ ■

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December 1996

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EXECUTIVE SUMMARY

Prevention of drug, alcohol, and tobacco abuse among high risk youth has been the goal of the Center for Substance Abuse Prevention (CSAP) since 1987. In October 1994, CSAP granted funding to the Chrysalis Project in Portland Public Schools to prevent or delay the onset of substance abuse among a special target population — high risk female adolescents with a history of childhood abuse. For many of these young women, a strong sense of shame related to this abuse impacts their self-esteem and can lead to problems, such as substance abuse, eating disorders, poor social relationships, violence, and suicidal tendencies.

The Chrysalis Project is designed to serve high school aged young women who have been victims of physical, sexual, or emotional abuse. The project provides an integrated matrix of services to reduce the negative consequences of this abuse and to strengthen the girls' own resilience. Among the key intervention strategies of the project are weekly student support groups, educational Open Sessions, a Challenge Course, a Girls Empowerment physical safety and self-defense class, an All Student End-of-Year Celebration, and ongoing individualized Case Management. Through these activities, students encounter emotional support and high expectations from caring adults.

This report presents the findings from the evaluation of the Chrysalis Project's second year of providing assistance to students. During the 1995-96 school year, the project served 370 young women in grades nine through twelve (189 Chrysalis Program girls and 181 control group youth). The program operates in all ten traditional high schools and two alternative schools in the district.

The Chrysalis evaluation utilizes a true experimental design with random assignment of youth to intervention and control groups and pre and posttesting of subjects. The purpose of this evaluation is to assess the effectiveness of the specific program intervention strategies. It will also document the process of service delivery and program implementation at the schools to help interpret and give context to the project outcomes.

Project Chrysalis enjoyed much success at its 12 school locations during its second year of operation. The key findings of the outcome evaluation indicate several significant relationships among different health risk behavior areas, including:

- Chrysalis students attending more support groups reported lower rates of marijuana use in the past 30 days;
- Chrysalis students attending more support groups reported fewer instances of sexual intercourse in the past 3 months;
- Students who participated in more Chrysalis activities (high dosage) reported more negative attitudes toward alcohol, tobacco, and other drug use and stronger refusal skills;
- Students who participated in more Chrysalis activities (high dosage) significantly improved their academic indicators, such as higher Graduation Standards Test (GST) scores, higher grade point averages, and reduced school absenteeism;
- Over the course of the year, fewer Chrysalis Program group students became pregnant than Research students;
- A higher percentage of Chrysalis girls reported using alcohol and marijuana in the past 30 days, while the percentages remained essentially the same in the Research group;
- Over the school year, fewer students in both groups engaged in physical fighting. While the main effects of fighting go down throughout the high school years, Chrysalis students had bigger declines than would be expected in fighting;
- Chrysalis students receiving more case management sessions and hours were more likely to have carried a weapon to school in the past 30 days; and more likely to have lower GPA and school attendance; and
- Students at the highest risk level (8 or more risk factors at intake) reported:
  - higher use of cigarettes and marijuana at school,
  - higher rates of sexual intercourse with more partners,
  - higher rates of considering, planning, and attempting suicide.

These results indicate just how dramatically experience can stimulate positive or negative behavior in young women. These, and related findings, have taught the researchers much about the implementation, management, and evaluation of the project this year. However, it is important to note that all of the results at this stage of the project are merely associations; that is, they show the presence or lack of related behaviors and not the cause of the behavior.

The data in this report offer a striking portrait of the Chrysalis high risk female adolescent population. Clearly, the results show that relationships exist between young women with a history of abuse and increased use of alcohol and other drugs, sexual behaviors, violence-related behaviors, and suicide ideation and attempt. Despite lower enrollment than anticipated,

staff changes, and other limitations, the project has shown remarkable resiliency and maintained steady progress toward identifying problems and framing solutions. While recognizing this success, the authors recommend continued attention be given to schools in which the project has not been fully implemented, so that any obstacles to implementation can be overcome.

In summary, while no single approach will work for all students, the Chrysalis demonstration project has offered a variety of options and support services to address multiple health risk behaviors associated with the high risk female adolescent population. Chrysalis is a place where students can develop competence and confidence in their abilities, where they can have successful experiences and learn constructive behaviors, where they can find a passage to a safe future. We anticipate that with each passing year there will be increasing evidence of the positive impact the program has on the lives of students.

Chapter 1. Overview of the Intervention

Adolescents today face more complex and life-threatening issues than young people faced only a generation ago. Health risks have changed dramatically in the last decade due to AIDS, drug addiction, child abuse, teen pregnancy, gangs, and violence. Increasingly, female adolescents are involved in unhealthy risk taking and self-destructive behaviors—suicide and suicide attempts, sexual intercourse, tobacco use, and drug abuse. Yet, the picture for young adolescents is not entirely bleak. Research tells us that a single caring adult can make all the difference in the direction a young adolescent woman chooses to take in overcoming these formidable obstacles in her life.

Statement of the Problem

At the national level, the need to address one of these issues—student alcohol and other drug use and its consequences—has led to a variety of program and policy initiatives. In order to meet the needs of the high risk female adolescent population, the U. S. Department of Health and Human Services' Center for Substance Abuse Prevention initiated the High Risk Youth Demonstration Grant Program. This program helps local and state agencies identify current health and safety habits so that improvements can be made where they are needed and effective practices can be demonstrated and replicated throughout the United States. The Portland Public Schools' Prevention Office received a grant to demonstrate the effectiveness of a comprehensive model designed to reduce the negative consequences of childhood abuse among high school aged young women.

The young women participating in the Chrysalis Project have all been victims of abuse. Statistics on the rates of child abuse are controversial. Conservative estimates of incidents involving physical contact find that approximately one in three girls is sexually abused before age 18 and one in four by age 14 in the United States (Hopper, 1996; Russell, 1993). The rates of physical abuse and emotional maltreatment among these young women are even higher. Most abused children never come to the attention of authorities because there may be no physical signs of harm, victims often have intense shame, and even adults who know of the abuse deny the truth for fear of destroying the family. The effects of child abuse have also been linked to delaying cognitive development and inhibiting healthy physiological responsiveness to the environment (Carrey, 1995). Most of the Chrysalis participants show ongoing signs of posttraumatic stress disorder (intrusive recollections, constricted affect, etc.) and other chronic trauma-related disorders.

Brief Description of the Intervention

The Chrysalis Project in Portland Public Schools serves high school aged young women who have a history of physical, sexual, or emotional abuse. Chrysalis is a comprehensive, multifaceted project designed to reduce the negative impact of this abuse and enhance the healthy, positive development of the young women. All the female adolescent participants in Chrysalis, in both Program (intervention) and Research (control) groups, are victims of abuse. These students exhibit a wide range of other risk factors including being a child of a substance abuser, experiencing chronic school failure, dropping out of school, being pregnant or a teen parent, using alcohol and other drugs, experiencing mental health problems, showing violent/delinquent behaviors, being at risk of suicide, HIV/STD infection, or other threats to their health.

Based on research of effective interventions for high risk youth, Project Chrysalis offers multiple intervention strategies to provide intensive services and comprehensive support systems (Klitzner, 1987; Hawkins et al., 1986; DeCiccio et al., 1984; Weisheit, 1983) that address risk and resiliency factors across several domains. Resilience research offers hope that internal characteristics and interpersonal relationships may buffer the negative influences that occur in young lives and influence their positive life adaptations (Laws & Gabriel, 1995; Benard, 1986).

Chrysalis provides an integrated web or matrix of services to foster resiliency characteristics of students. Through interventions such as the weekly Chrysalis support group, students encounter emotional support and high expectations from caring adults. Open sessions are scheduled periodically to augment students' knowledge of specific issues such as HIV/AIDS, media literacy, or tobacco awareness. Intensive interventions such as the Challenge Course, Girls Empowerment, and End-of-Year Celebration are once a year milestones which positively impact the adolescents' sense of self-concept, personal power, and autonomy. These interventions influence the individual, peer, school, and community domains.

Theoretical Underpinnings Linking the Intervention to Desired Outcomes

The intervention is designed to reduce the incidence and prevalence of alcohol, tobacco, and other drug use and related problems among high-school-aged young women who have experienced physical, sexual, or emotional abuse. This population was selected because of the strong correlation between a history of physical/sexual abuse and involvement with various chemical substances.

For many of these young women, a strong sense of shame and degradation related to sexual abuse in their family can lead to problem behaviors such as eating disorders, low self-esteem, substance abuse, aggression, and poor relationships with peers (Downs, 1993). Victims of physical abuse suffer similar effects, especially the loss of basic trust in relationships (Hoffman, 1995). Female survivors of abuse may have increased risks of drug involvement with the conflicting pressures and developmental changes of adolescence. As the term Chrysalis suggests, the project provides a special protective cocoon for young women at a vulnerable developmental time to urge them toward a healthy transition to adulthood.

Hypotheses Relating Intervention Activities to Measured Change

Exhibit 1.1 on the following page shows the Chrysalis Logic Model. The model illustrates in more detail the relationships among the risk factors identified in the target population, the interventions implemented by the project, and the outcomes hypothesized for the female adolescents as a result of their participation in the project. Each intervention addresses more than one risk factor and is expected to lead to more than one positive outcome for the young women. The assumption underlying the project is that by providing a caring and supporting environment though the various program interventions, the project will demonstrate improved school performance, reduced negative impact of child abuse, and strengthened resiliency. These factors will help the Chrysalis participants to reject drug use, bolster their personal strengths, and build strong, supportive networks for a positive future.

Exhibit 1.1 Chrysalis Logic Model

	RISK FACTORS	OBJECTIVES	INTERVENTIONS	INTERMEDIATE OUTCOMES*	IMPACT
INDIVIDUAL	**Poor academics** **Lack of school bonding** **Poor life skills** **Poor self image** **Abuse/sexual abuse**	*To significantly improve school performance among high school female participants in Project Chrysalis* *To significantly decrease the incidence of negative outcomes of child physical/ sexual abuse among high school female participants in Project Chrysalis* *To significantly strengthen resiliency among high school female program participants*	**SKILL BUILDING** **KNOWLEDGE** **ADVOCACY** **PEER SUPPORT** ◆ Support Group ◆ Challenge Course ◆ Open Sessions Drug Awareness Tobacco Awareness HIV/AIDS Education Women Role Models Goal Setting Eating Disorders Coping Skills Friendship Skills Media Literacy Balancing: work/family/school ◆ Case Management Needs Assessment Individual Service Plan Opportunities Fund Portfolios ◆ Girls Empowerment ◆ School Staff Training in Sexual Abuse	*Improved school performance as measured by:* • *improved attendance* • *reduced dropout rates* • *progress in meeting graduation standards* *Reduced negative consequences of child sexual abuse as measured by:* • *information/ statistics on unsafe sexual practices* • *reduced early pregnancy* • *reduced STD's* • *reduced mental disorders* *Improved resiliency as measured by resiliency scales on the Chrysalis Risk & Resiliency Index*	• Reduced incidence and prevalence of ATOD use and related negative consequences • Increased perception of harm & peer disapproval associated with ATOD use • Reduced involvement in physical fighting, victimization, assault injuries, aggressive behavior, weapons • Reduced school dropout, early pregnancy and parenthood, HIV/ AIDS infection & sexually transmitted diseases, mental disorders, such as eating disorders, depression, and suicidal behaviors
SCHOOL	**Cultural gap between school and students and/or community** **Lack of activities and attitudes that promote school bonding**				
PEERS	**Rejection by peers/isolation**				
COMMUNITY	**Lack of successful role models** **Lack of economic/ employment opportunities**				

* See Evaluation Plan for complete list of outcomes.

Chapter 2. Implementation Summary

Program Description

The Chrysalis Project serves young women in grades nine to twelve with a history of physical, sexual, and/or emotional abuse with a comprehensive, school-based program to reduce ATOD abuse, improve school performance and self-image, and reduce negative consequences of child abuse. During Year Two, a total of 370 high-risk female adolescent youth participated in the project; 189 Program group (intervention) students and 181 Research group (control) students.

Recognizing the high-risk status of female survivors of childhood abuse, Project Chrysalis has woven together a multifaceted strategy to address this population's multiple and interrelated problems. As the project's name suggests, Chrysalis is designed to address female students at a vulnerable developmental stage — the adolescent high school years — and to coax them toward a dramatic change or metamorphosis. The project is designed to counter risk factors with protective factors, to replace fear and isolation with confidence and supportive networks, to bolster knowledge, and advocate for student needs. Together the project interventions described below comprise a comprehensive, state-of-the-art system to guide high risk female adolescents on a road to recovery from child abuse.

Student Support Groups

School-based student support groups are the core of the Chrysalis Project with other interventions radiating from and enhancing this central component. In the second year of the program, each of the twelve participating high schools served up to 20 young women who had experienced physical, sexual, and/or emotional abuse, wanted to participate in the support group, and had the necessary parent/guardian permission. Five schools established and maintained one support group of approximately 10 students; seven schools established two concurrent weekly support groups.

Each support group is co-facilitated by two trained adults; a school counselor/case manager and a child abuse therapist from Waverly Children's Home. Co-facilitation relieves the stress of working with this challenging student population, expedites information exchange, exposes the young women to positive teamwork and interactions, and provides a balance between individual strengths and

styles. Support groups are held during the school day to encourage regular attendance by the girls. The curriculum for the support groups was developed for the adolescent female population by Waverly Children's Home. An outline of its contents is included in this report as Appendix A. The early sessions define what a "chrysalis" is, go over the group's purpose, establish ground rules, and introduce some techniques for establishing personal privacy, safety, and confidentiality. Over the course of 24 sessions, students discuss and examine a wide range of topics including:

- Child Abuse: Definitions, Causes and Effects;
- Telling, Understanding, and Reclaiming My Story, including secrets, not talking, memory, and family dynamics;
- States and Conditions Specific to Abuse Trauma, including contaminated thinking, depression/ suicide, shame/guilt and emotional flooding;
- World Views and How They are Impacted by Abuse;
- Past Coping Strategies For Survival, including alcohol/drug use, sexual activity, hurting self or others, perfectionism, and introducing new coping strategies;
- Intimacy and Sexuality, including the impact of abuse;
- Attitudes About Women, including celebrating our power; and
- Closure Process, including techniques and referrals for continuing the recovery process.

Open Sessions

Periodically throughout the school year, a special educational "open session" is held to address the specific needs and interests of support group participants. These sessions provide a break from the intensive personal exploration required in the support groups. They are intended to "open" the participants to new skills, knowledge, networks, and opportunities. These educational sessions focus on topics related to important risk and resiliency factors.

During Year Two, the project received two supplementary grants from CSAP to provide HIV/AIDS education and media literacy training to the Project Chrysalis participants. These two supplemental programs replaced the planned Open Session topics in Year Two. Examples of the Year Two Open Session activities are: four HIV/AIDS education classes and three media literacy training classes. In subsequent years, the project will return to the proposed Open Session topics: alcohol and other drug prevention; tobacco awareness; eating disorders; nutrition; goal setting; career interests; positive women role models; and coping skills to achieve a healthy, balanced life.

Case Management Services

Individualized case management ensures that each student's needs are linked with the appropriate district or community resources. In each high school, a counselor or other appropriate trained staff serves as the Chrysalis case manager to co-facilitate the student support groups and serve as an ongoing advocate for students. Each student completes a brief needs assessment to identify the major issues and concerns in her life. Case managers use the needs assessment to develop an individual service plan which addresses these issues of concern. Each case manager has a small opportunity fund allotted for emergency situations with students and access to special programs to support student needs, including food, clothing, academic tutoring, bus fare, fees to attend a tobacco cessation class, etc.

Challenge Course

The Challenge Course invites Chrysalis intervention participants to test their cooperative group problem solving, goal setting, and break-through thinking in an exhilarating physical obstacle course. The course, conducted by Maryann "Moe" Carrick, Director of the Northwest Regional Office of Project Adventure, involves students in safe but demanding physical and group activities. During the course, students build a sense of trust, teamwork, and personal accomplishment. The Challenge Course is a blend of theory and practice. Meaningful adventure-based learning experiences designed to develop safety and trust within a group are followed by structured dialog sessions where students process their experiences and make connections between behavior and recovery. Many Chrysalis program participants have trouble concentrating in school and are uncomfortable with physical activities and with asserting themselves. The Challenge Course offers an effective antidote to these problems with activities which are structured to complement the goals of the program.

Girls Empowerment Physical Safety and Self-Defense Class

The Girls Empowerment course is designed to improve the young women's confidence, self-image, and sense of personal competency and autonomy by teaching them how to protect and assert themselves. The class is led by women who have attended the Portland Police Bureau's 80-hour Women Strength course. Using a variety of instructional methods ranging from instructional presentations and group discussions to role playing and physical exercises, participants learn about the following topics: assertiveness and street safety, date rape, domestic violence and distinguishing

consensual from offensive acts, gender stereotypes and myths about violence toward women, protecting oneself by awareness of the surrounding environment, assertive speech and actions, identifying escape options, and trusting feelings about uncomfortable or unsafe situations. During Year Two of the project, the girls empowerment curriculum was held as a one-day course during the school day. With the aim of improving the level of participation, the class was held at a Portland Public Schools gym using special protective equipment and supplies for the physical safety class.

All-Student Year-End Celebration

At the end of the school year, all of the teen women who have participated in the Chrysalis Project get together for a half-day celebration and final healing experience. Throughout the school year students have met primarily in their small support groups. The Year-End Celebration is an opportunity for students to experience being part of the larger group and celebrates their rite of passage on the road to recovery from childhood physical, sexual, and emotional abuse. Activities are planned by the students and include women's theater performances, poetry readings, inspirational guest speakers, exhibits of artwork, music, dance, and positive recreational opportunities. Small group activities encourage the young women to get to know each other and share their impressions of the preceding year's activities. Certificates of achievement and awards recognize the young women's efforts and participation. The Year Two retreat was held at a local school-community center during the school day so that all young women could participate.

Supplementary Grant and Carryover Activities

The Chrysalis Project received two CSAP supplementary grants during the second year of the program — an HIV/AIDS Education Project and a Media Literacy Project. The activities of these two special programs were infused into the existing Chrysalis Open Sessions curriculum. Another special project, the Validity Study of Student Drug Use, was conducted with carryover funds. The complete reports on these special activities are presented in Appendices B, C, and D. The following section provides an overview of the implementation of these supplementary program activities.

The Validity Study of Self-Reported Drug Use

The Chrysalis project received CSAP funding to conduct a special study to validate the self-report of certain health risk behaviors on the project's *Risk and Resiliency Index* survey. The study

features the use of hair specimen analysis as a validating measure of students' self-reports of their illicit drug use. As always, results of the hair analysis and the self-report survey were kept completely confidential.

Surveys of alcohol and other drug use are often criticized by policymakers and the general public as relying too heavily on the honesty of the respondent. The National Institute on Drug Abuse (NIDA) has identified other sources of error that can be equally biasing (Turner et al, 1992) in the collection of this information via self-report. Young people's reading levels, comprehension of complex concepts within drug use items, and attention spans — in what are often very long surveys — are other complicating factors having nothing to do with their willingness to disclose or respond honestly to these questions.

Project Chrysalis aspires to reduce ATOD use behaviors among its participating young women, and information regarding these behaviors was collected via a self-report survey. To lend confidence to the interpretation of these results, a validation study was designed and implemented by project evaluation staff. An overview of the results of the study will be presented in Chapter 4 of this report. Readers interested in the details of the research design, data analysis, and results of the study are directed to read the complete report in Appendix B, *The Validity Study of Self-Reported Drug Use.*

HIV/AIDS Education Project

The Chrysalis Project implemented an HIV/AIDS Education course with Program and Research group youth during Year Two. An HIV/AIDS Prevention Education Specialist worked with public and private community organizations, such as the Cascade AIDS Project, to develop a comprehensive and informative educational experience for Chrysalis participants. The HIV/AIDS curriculum was delivered in four separate sessions to Program girls and in a single retreat setting to Research youth. Both groups received the same comprehensive educational program. The sessions provided concrete, interactive activities and lessons on the following topics: classroom climate setting; what is HIV and what are HIV high-risk behaviors; testing for HIV; sexual abstinence and protection from pregnancy, HIV, and other sexually transmitted diseases; refusal and negotiating skills; avoiding high-risk situations; and information for accessing/using resources for HIV protection.

Two student trainers conducted most HIV/AIDS education activities in a "Teen to Teen" Workshop. A unique aspect of the session was having the delivery and responsibility for the program given to

teenagers. This type of presentation is thought to be effective because teens are more comfortable discussing sensitive issues surrounding sexuality with their peers. Another powerful component of the program involved having speakers who were HIV-positive talk to the youth. These speakers, who were also victims of childhood sexual abuse, spoke about their experience of getting the HIV virus and how the virus has changed their lives. Their stories gave a personal focus to a virus that doesn't seem a real threat to many young girls because they don't think it can happen to them. As one speaker poignantly stated, *HIV has really taken over my life.* A full description of the HIV/AIDS Education Program is in Appendix C.

Media Literacy Project

The Chrysalis MEDIA Project was designed to empower students to think critically about the information they receive in a multimedia society and the decisions they make daily based on advertising and other media influences.

The MEDIA Project consisted of three major components: three training sessions for all Chrysalis Program students during the school year; a production workshop for a select group of ten students during the summer; and a proposed training retreat for ten Chrysalis students to develop an educational program for middle school students.

Three, one-hour Open Sessions led by a woman media specialist were offered for all Chrysalis Program participants. The sessions, held at the twelve high schools, examined: 1) gender roles and stereotypes found on television and in other media, including attitudes toward various cultural groups and specific female populations — for example, disabled, elderly, or poor women; 2) how to "read" an advertisement or other media for the underlying message being disseminated; and 3) discerning fact versus fiction in the media — encouraging students to become analytical and critical thinkers.

In June 1996, ten Chrysalis students were recruited to apply what they had learned about media literacy during the school year to designing and producing a public service announcement (PSA) and a short videotape. The students attended a two-week media literacy workshop led by two professional female animators/film makers from the Northwest Film Center's Video/Film Maker-in-Schools Program and by Chrysalis staff. The use of animation allowed participants to avoid confidentiality issues while addressing important subject matter in a creative manner. Students created two products: a 30-second PSA entitled *Fight Girl Poisoning* and a three minute videotape,

Girl Power. The participants determined the content of the two products; staff choose an animated film format to address the issues of media influence, ATOD use, gender and abuse and to protect participants' privacy. Each girl played a role in the development and production. Some developed story lines about an ATOD issue important to them, others drew the pictures or wrote the script and audio. The girls learned what animation is, what it entails, and how to develop their own animation.

During the 1996-97 school year, the workshop participants will deliver presentations on media literacy and show the animated *Fight Girl Poisoning* PSA in middle school health classes. The students will also help arrange other opportunities to air the PSA and encourage new Chrysalis participants to become involved in educating their middle school peers. A detailed description of the MEDIA Project, along with evaluation results, is presented in Appendix D.

Training for School Staff

Another aspect of the Chrysalis intervention focuses on the cultural divide and the resulting alienation often experienced by abused students toward school. Training provided by the Waverly Children's Home and the Tribes Learning Community at the district high schools improved the ability of school staff to address issues related to physical/sexual abuse, cultural diversity, and cooperative learning among students. During 1995-96, a Waverly contractor provided five 90-minute orientation sessions on the trauma of child physical, sexual, and emotional abuse among female adolescents to the faculty at four high schools. Fifty-seven school staff members attended these sessions. The Waverly contractor also presented an advanced training, Understanding Secondary Trauma, to 20 project staff and case managers in January 1996. A district Tribes trainer presented one 32-hour course designed to enhance multicultural understanding among staff from each high school. The Tribes course shows participants how to use developmentally and multiculturally appropriate cooperative learning and peer support strategies to improve the climate for learning, student self-esteem, and success in school.

In Year Two, Project Chrysalis also sponsored a 2½ day Challenge Course retreat for staff and case managers. The retreat was held at the Tillikum Retreat Center, a Project Adventure training facility sponsored in conjunction with George Fox College. Thirteen Chrysalis school-based staff attended the session focusing on experiential learning and strategies to build trust, teamwork, and personal accomplishment. Special attention was given to linking knowledge acquisition to knowledge utilization. The case manager's personal experience in challenge course activities allowed them to

feel the success and/or frustration students encounter in these physical activities. Following each challenge course activity, the school staff brain stormed debriefing methods and exercises to extend the impact of the curriculum with Chrysalis students.

Linkage to National Cross-Site Evaluation

During Year Two, Project Chrysalis was selected to participate in CSAP's National Cross-Site Evaluation Study. The Chrysalis project management team collaborated closely with Senior Evaluators at EMT Associates and Macro International to implement a high quality system for tracking "dosage" or student participation in program activities. Based on the CSAP management information form (MIF) categories, Project Chrysalis developed an electronic database system to provide the project with systematic access to student information from multiple sources, enhance student tracking and data management, and mesh with data collection efforts of the national cross-site evaluation.

For Year Three, the project case management logs have been revised to incorporate the latest intervention categories and coding systems provided to the Chrysalis staff and the EMT Associates/Macro International local data collector at the National Cross-Site Evaluation Training Conference in St. Louis, Missouri held in July 1996.

Dosage of the Intervention

Year Two of the Chrysalis Project, the 1995-96 school year, was the first full year implementation of the program and allowed the delivery of a full complement of program services. This was the last year of intensive program services for cohort one students and the project benefited by having this continuing group of students with which to begin the second year of the program. The schools conducted an ongoing student intake between September and December 1995. Support groups began in late September 1995. Throughout Year Two, the management information system in the PPS Evaluation Department tracked student participation or dosages in the project.

Exhibit 2.1 below compares an "ideal" full-year implementation configuration for Project Chrysalis with the "actual" level of program implementation in Year Two. Project Chrysalis provides students with individual case management, as well as five key program components — Support Groups, Open Sessions, a Challenge Course, a Girls Empowerment class, and a Year-End Celebration. The ideal

program involves 24 Support Group sessions, 7 Open Sessions, (four HIV/AIDS education and three media sessions), one Challenge Course, one Girls Empowerment course, and one all-student Year-End Celebration. This ideal program would provide 34 weekly sessions or approximately 40 hours of intervention activities, and up to 10 hours of individual case management annually.

During the second year of the program, Project Chrysalis provided a mean of 29.6 sessions or 87 percent of the optimal program services (based on 34 program sessions for full implementation). The mean implementation level of Support Groups across the program was 84 percent or an average of 20.2 sessions per school during the 1995-96 school year. The implementation rate for Open Sessions was 93 percent or a mean of 6.5 sessions. The rate of implementation for the Challenge Course was 90 percent with one alternative school not delivering this component. Both the Girls Empowerment and the Year-End Celebration had 100 percent implementations by the project.

Exhibit 2.1
Chrysalis Project, Year Two
Comparison of Ideal vs. Actual Program Implementation

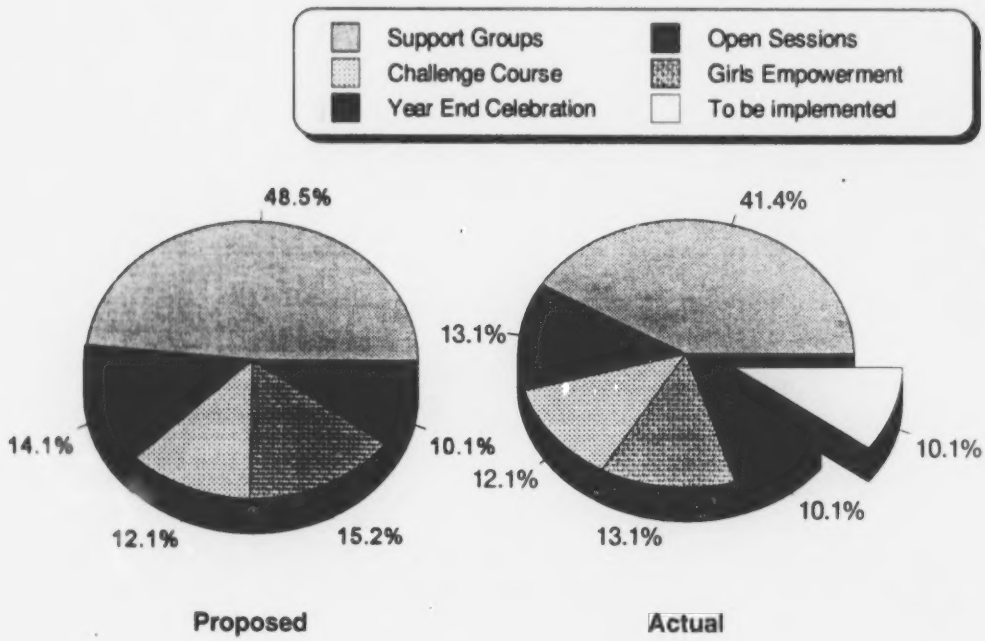
Level of Implementation	Chrysalis Program Components (Students)					
	Support Group	Open Sessions	Girls Empwrmt.	Challenge Course	Year End Celebration	TOTAL
IDEAL						
No. of Sessions	24	7	1	1	1	34
Annual Hours	19.4	5.6	5	5	5	40
ACTUAL						
Mean No. Sessions	20.2	6.5	1.0	0.9	1.0	29.6
Annual Hours	16.3	5.2	5	4.5	5	36.0
Percent Implementation	84.2%	92.9%	100.0%	90.0%	100.0%	87.1%

Exhibit 2.2 compares the percentage of proposed ideal program dosages with the actual level of program implementation by component during Year Two. The ideal implementation configuration proposes that 48 percent of the intervention consists of Support Group sessions, 15 percent of the program is the Girls Empowerment course, 14 percent of the project are Open Sessions, 12 percent of the program is the Challenge Course, and 10 percent is the student Year-End Celebration.

In its second year, the project achieved full implementation across all schools. Forty-one percent of the intervention hours were comprised of Support Group sessions, 13 percent of the hours were each devoted to the Girls Empowerment and Open Sessions, 12 percent of the program hours were

for the Challenge Course, and 10 percent of the hours were for the Year-End Celebration. Only 10 percent of the ideal project activity hours remain to be implemented in the future (seven percent Support Groups, two percent Girls Empowerment, and one percent Open Sessions).

Exhibit 2.2
Chrysalis Program Dosage, Year Two
Level of Implementation by Component



School Level Dosage

Exhibit 2.3 on the following page provides a summary of the implementation of Project Chrysalis at each of the 12 high schools during Year Two. A total of 19 Project Chrysalis groups were led by 13 school-based case managers, in collaboration with six contract therapists from Waverly Childrens' Home. The matrix also provides information on attrition of students in the Program (intervention) and Research (control) groups. Approximately 39.6 percent of the program students (n=75) and 23.7 percent of the research students (n=43) were described as "inactive" at the end of Year Two. Students are "inactive" if they move out of the service area, do not recommit to attend program activities, drop out of school, or are lost after multiple attempts to contact them by mail or phone.

Exhibit 2.3

Chrysalis Implementation Across Schools and Program. Year Two (1995-96)

School	Case Manager	Contract Therapist	No. of Groups	Program Students			Research Students			Number of Sessions by Program Component					Total
				Active	Inactive	Total	Active	Inactive	Total	Support Groups	Open Sessions	Challenge Course	Girls Emp.	Celebration	
BENS	Kris Iverson	I. Deaver	2	13	4	17	13	3	16	19	7	1	1	1	29
										15	7	1	1	1	25
CLEV	Alan Porter	A. Selmer	1	4	6	10	10	1	11	16	7	1	1	1	26
FRNK	Marilyn Olson	J. McClarty	1	6	2	8	7	2	9	19	8	1	1	1	30
FRNK	Barb Neeley	A. Selmer	1	8	0	8	6	2	8	22	5	1	1	1	30
GRNT	Jackie Johnson	J. McClarty	1	6	1	7	8	1	9	18	2	1	1	1	23
JEFF	Angela Johnson	J. McClarty	2	9	7	16	10	4	14	22	7	1	1	1	32
										17	7	1	1	1	27
LINC	B.Quinn/R.Honl	P. Church	1	5	1	6	3	2	5	21	6	1	1	1	30
MADN	Ann Painter	S. Newcomer/	2	11	10	21	13	6	19	19	7	1	1	1	29
		A. Selmer								19	7	1	1	1	29
MARS	Nancy Mancy	J. McClarty	2	10	7	17	14	3	17	24	7	1	1	1	34
										19	7	1	1	1	29
MONR	Jan Katz	J. McClarty	1	10	11	21	12	4	16	25	7	1	1	1	35
ROSV	Sarah Friedel	S. Monahan	2	15	7	22	15	8	23	22	6	1	1	1	31
										22	6	1	1	1	31
VVIL	Joan Murphy	J. McClarty	2	12	16	28	23	5	28	25	7	0	1	1	34
										24	7	0	1	1	33
WILS	Sid Birt	I. Deaver	1	5	3	8	4	2	6	16	7	1	1	1	26
										Minimum number of sessions for implementation:[2]	8	2	0.3	0.3	0.3	11
										Optimal number of sessions for full implementation:	24	7	1	1	1	34
TOTAL	13	6	19	114	75	189	138	43	181	20.2	6.5	0.9	1.0	1.0	29.6

[1] Open sessions are 4 HIV/AIDS education and 3 media literacy sessions.

[2] Minimum standard is 1/3 for each component, i.e., 8 is minimum number of support group sessions based on 24 as optimal support groups.

During Year Two, all case managers at the twelve high schools achieved full implementation of the Chrysalis Project (as defined by implementation of at least one-third of each of the program components). The mean level of program implementation across schools was 29.6 sessions delivered during 36 hours; the optimal implementation of the program is 34 sessions and 40 hours annually. A comparison of the ideal implementation hours vs. the actual implementation indicates that 90 percent of the intervention hours were achieved by the schools in Year Two. This is a significant improvement in the level of implementation over Year One and an appropriate level of implementation given the expansion of the program to four new schools in the second year. Analysis of program dosages by school indicates the number of Chrysalis sessions provided in the schools ranged from 23 to 35 sessions or approximately 68 to 100 percent of the "ideal" implementation.

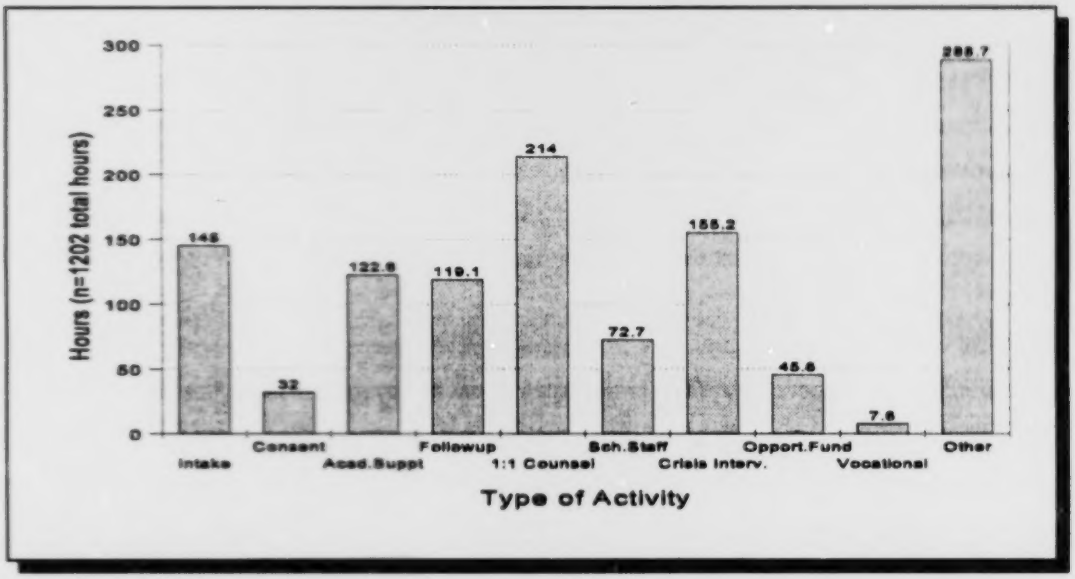
In addition to the five key components, Chrysalis case managers conducted individualized case management activities and one-to-one counseling with students to improve self-image and academic performance and to reduce the negative consequences of childhood abuse. Case management is a dynamic activity and encompasses several types of activities in the schools. During Year Two, the case management categories were: student intake, consent/recommit to participate, one-to-one counseling, academic support, follow-up to support group topics, opportunity fund (incentives for participation), crisis intervention, communication with school staff, vocational support, and other services. The *other* category included individual needs assessment, participation by students in program awareness/dissemination activities, and behavioral/social skills counseling. The case management instrument was revised for Year Three to link more closely with the CSAP management information form (MIF) categories and the National Cross-Site Evaluation intervention categories.

During Year Two, case managers at each school logged a mean of 165 case management contacts with Chrysalis Program students and 55 contacts with Research (control group) students — sporadic contacts with control group students helped to insure against attrition among this group. Case management also included contacts with parents (10 percent), school staff (7 percent), and community agencies (3 percent). The number of case management hours per Chrysalis Program student ranged from 0.2 to 9.2 hours annually. Overall, Chrysalis Program group participants each received an average of 3.9 case management hours during the second year of the project.

Exhibit 2.4 displays the type and hours for case management activities in 1995-96. The twelve Chrysalis schools provided a total of 1202 case management hours with participants. Case managers reported 145 hours for student intake and 32 hours for collecting consent forms from

participants and parents. Counselors spent 123 hours with students on case management related to academic support; activities to follow up on support group topics took 119 hours; one-to-one counseling sessions involved 214 hours; and 155 hours were used for crisis intervention activities.

Exhibit 2.4
Case Management Activities, Year 2



Individual Dosage

Chrysalis students were grouped into high, medium, and low levels of participation in the program or "dosage" depending on how many sessions each student attended in the five major program components. A proposed "one-third model" was used to determine the level of dosage by program components (support groups, open sessions, challenge course, girls empowerment, and annual celebration). The optimal number of sessions for each component was divided by 1/3 to designate a high, medium, or low dosage level. Students attending 67 to 100 percent (top 1/3) of the available sessions in a component were identified as "high dosage." Young women attending 34 to 66 percent (middle 1/3) of available component sessions were classified as "medium dosage" and youth attending one to 33 percent (lower 1/3) of sessions were grouped as "low dosage." Students who did not participate in any sessions were classified as "no dosage" and eliminated from analyses.

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For example, let's look at the level of dosage in student support groups. During Year Two, a maximum of 24 student support groups were held in schools. Students who participated in 17 or more sessions were identified as the "high dosage" group. Young women attending 9 to 16 support group sessions were classified as "medium dosage" and those who participated in eight or fewer support groups were identified as "low dosage." Youth who did not attend any support group sessions were classified as the "no dosage" group. More detailed information on these classifications is presented in Chapter 4 of this report.

Analysis of dosage in Year Two indicates that 32 percent of Chrysalis students received "high dosage" by attending a total of 21 to 30 program sessions during 1995-96. Approximately 25 percent of students received "medium dosage" which is defined as participation in 11 to 20 sessions. Another 22 percent of students were classified as "low dosage" by attending one to 10 sessions. Twenty-one percent of students did not attend any project activity and were categorized as "no dosage."

Analysis of individual dosage for Year Two indicates that the average Chrysalis student:

- participated in 11.3 support group sessions over 9.2 hours;
- attended approximately 3.9 of 7 Open Sessions during 3.1 hours;
- took part in 59 percent of the six-hour Girls Empowerment course;
- participated in 43 percent of the five-hour Challenge Course;
- attended 50 percent of the All-Student End-of-Year Celebration for four hours;
- received over 10 case management sessions over 3.9 hours; and
- participated in a total of 26.5 Chrysalis sessions over 31.2 hours during the year.

Chapter 3. Evaluation Methodology

Sampling Design / Approach

The evaluation of the Chrysalis Project is a collaborative effort among the external evaluator, RMC Research Corporation, the internal evaluation team in the Portland Public Schools Research and Evaluation Department, and the project staff. This collaboration ensures that the information gathered through evaluation activities produces reliable evidence to assess program strengths and weaknesses, and is useful for improving program operations. Examples of this team approach include collaboration on instrument development, data collection activities for the validity study, and the case study of a small sample of students in the project.

A variety of activities were conducted to gather information for the evaluation. Some activities were quantitative in nature, resulting in numeric descriptions of the program; other activities produced qualitative data, resulting in narrative descriptions which give more of a "real life" quality to the information. The findings presented in this report are a blend of both types of information.

The impact of Chrysalis extends beyond the observable dimensions of reduced alcohol, tobacco, and other drug use, fewer health risk and victimization behaviors, and improved academic progress. The program affects different individuals in different ways and to a different extent. The intent of this evaluation is to gather evidence to answer the following research questions:

- What is the demographic profile of the students served by the project as measured by age/grade, gender, ethnicity, risk factors and type of abuse?
- To what extent do participants improve school performance as measured by improved attendance, reduced dropout rate, and progress in meeting graduation standards?
- To what extent do participants reduce negative consequences of child sexual abuse as measured by information on unsafe sexual practices and reduced early pregnancy, sexually transmitted diseases, and mental health disorders?
- To what extend do participants demonstrate improved resiliency as measured by resiliency scales on the Chrysalis Risk and Resiliency Index?

Female students in grades nine, ten, and eleven who had been identified as victims of abuse were

contacted to participate in Chrysalis. Students who had participated in the pilot program were asked to sign a consent to "recommit" to participate in the program. Informed consent was obtained from the student, and with the student's permission, the parent was then contacted. Both the student and parent were provided with an opportunity to ask questions and discuss the program prior to signing the consent forms. Student and parent consent were obtained from participants in the intervention and control groups. All participation is voluntary and students were permitted to withdraw from the program at any time. Once the consent forms were complete, students were randomly assigned to either the control group (termed Research) or the intervention group (termed Chrysalis Program).

Research Design

Chrysalis is a "true experiment" research design (Campbell & Stanley, 1961) featuring random assignment to Program and Research groups. This is the best approach for controlling rival explanations of effect, increasing internal validity, and strengthening causal inference (Campbell & Stanley, 1966; Mohr, 1992). The use of a control group with random assignment aids in accounting for potentially confounding influences such as history, maturation, testing, and regression.

Exhibit 3.1 shows the number of students involved in the project each year. Exactly the same design will be used with the control group. The exhibit gives the actual number of participants for Year One and Two, along with recruitment goals for subsequent years. If these goals are realized, a total of 1,810 intervention and control group youth will participate in the program over its four-year duration.

Exhibit 3.1
Evaluation Design
Number of Participants in the Chrysalis Group by Year

Project Year	Pilot Year 1	Program Year 1	Post Year 2	Post Year 3
1994-95	Pilot Cohort n=91			
1995-96	Cohort 1 n=189	Pilot Cohort n=91		
1996-97	Cohort 2 n=240	Cohort 1 n=189	Pilot Cohort n=91	
1997-98	Cohort 3 n=240	Cohort 2 n=240	Cohort 1 n=189	Pilot Cohort n=91
1998-99	Cohort 4 n=240	Cohort 3 n=240	Cohort 2 n=240	Cohort 1 n=189

The Research group participates only in the evaluation activities and receives no special services that are not available to all district students, with the exception of the HIV/AIDS Education Project in Year Two. A randomized control group design ensures that characteristics of the control and intervention groups are similar at the outset of the project. In addition, information from the district population will often be included to serve as a baseline frame of reference for the target population.

Case Study

An in-depth case study of selected Chrysalis and Research students will augment the quantitative data with a qualitative study of the Chrysalis program. This intensive case study will focus on a sample of the high risk female adolescents in the project. The case studies will systematically describe the characteristics of the program population and provide comprehensive qualitative description, impressions, and judgements through a variety of interviews and observations. The case study will shed light on important variables, processes, and interactions that deserve more extensive attention in the evaluation. The scope of these case studies will encompass the entire span of student involvement starting with the initial student referral, through program participation, and following students longitudinally throughout the project's funding cycle. The ongoing case study analysis will likely tell us things more quickly than the quantitative analysis and may offer meaningful information for formative evaluation.

The purpose of the case studies is to explore how the Chrysalis project best supports its participants and explain what aspects of the project contribute to reduced risk and increased resiliency. Each case study should teach us more about the process and the need underlying it. The following themes provide a focus for the case study investigation.

- How important is Chrysalis compared with other life events in influencing whether and how students change?
- How important are the various components to the overall Chrysalis package?
- How engaged, committed, and honest are participants in their relationship with the project?
- What is the best target group for Chrysalis? Why are some students more successful than others?

In Year Two, case study students were selected to help study the relationship between the project and key risk characteristics of its participants. These characteristics included alcohol/drug use, violent behavior, child of a substance abuser, teen parent, and mental health issues. Cases were selected from different grade levels, ethnic groups, and risk factors to provide the most information. Exhibit 3.2 describes the demographic and risk factors of students in the Year Two case study.

Exhibit 3.2
Case Study Sample, Year 2

Case	Group	Age	Grade	Ethnicity	Number and Type of Risk Factors
1	Program	17	11	African American	Child of substance abuser, lesbian, and economically disadvantaged (3)
2	Program	16	10	White	Child of substance abuser, drug use, violent, juvenile court involved, witness to violence, knows someone murdered, mental health issues, foster home (8)
3	Research	16	10	White	Child of substance abuser, uses alcohol, tobacco & drugs, mental health problems, teen parent, and low socio-economic level (5)
4	Research	18	10	White	Child of substance abuser, dropout, school failure, pregnant, violent, mental health problems, chronic pain, suicide risk, and alcohol/drug use (9)

Results of these qualitative data collection activities will serve many analytical purposes for the evaluation of the Chrysalis program. First and perhaps foremost, the case studies will provide the personal, human detail of the process and effects of the program on individual young women. As such, they will provide an invaluable supplement to the statistical results on the entire sample yielded by the quantitative analysis. The insights gained through the case study will have a dual effect on the quantitative analysis itself. First, they may suggest specific analyses of factors unanticipated in the design. For example, personal interviews with students may suggest that certain aspects of their abuse history are particularly potent predictors of their current attitudes or health risk behaviors. These leads can be explored through correlational analyses on the full sample of young women, both Chrysalis participants and control. Second, the observations and experiences gained in personal contact with these young women will undoubtedly assist the interpretation of the quantitative analysis. It is highly likely that, given the wide variety of process and outcome variables included in this study, there will be patterns of relationships and moderating influences not immediately understood by the evaluation team. The qualitative portion of the study, along with discussions with program staff, is expected to contribute enormously to the interpretation of the results.

Proposed and Actual Sample Size

The project plans to recruit 480 students each year; 240 Chrysalis Program group students and 240

additional students in the Research control group. Year Two of the program was the first full school year implementation with students in cohort one. In Year Two, the actual number of project participants was 370 students; 189 Chrysalis young women and 181 Research control group youth.

Properties and Characteristics of Operationalized Dependent Measures

Continuous assessment of student attitudes, achievements, and behaviors is paramount to the evaluation of this program. Therefore, we will involve all participants in no fewer than two evaluation activities each year. The evaluation will incorporate incentives to encourage students' participation in the intake and data collection efforts (coupons, movie tickets, gift certificates, etc.). It should be noted that these instruments may change during the course of the project to continuously approach the state of the art in evaluation, respond to national cross-site evaluation directions from CSAP, and reflect changes in education in Oregon. Copies of all instruments are in Appendix E of this report.

Chrysalis Risk and Resiliency Index

The primary tool for assessing student outcomes is the *Chrysalis Risk and Resiliency Index*. It includes scales related to project activities and their impact on student behavior. The survey consists of scales from the Centers for Disease Control and Prevention's *Youth Risk Behavior Survey* (YRBS), Phillips and Springer's *Individual Protective Factors Inventory* (IPFI), and the *CSAP Youth Survey* being employed in the national cross-site evaluation of High Risk Youth Projects.

The risk portion of the *Chrysalis Risk and Resiliency Index* includes a variety of health risk behaviors and attitudes from the YRBS and *CSAP's Youth Survey*. These attitudes and behaviors include:

- Attitudes and perceptions of friends' attitudes toward alcohol, tobacco, and other drugs;
- Use of alcohol, tobacco, and other drugs;
- Physical fighting and weapon carrying behavior;
- Sexual activity; and
- Suicide ideation and attempts.

Reliability analyses of *YRBS* data gathered on adolescents across the country are encouraging. Kappa coefficients from a test-retest administration of the survey to adolescents in grades seven through twelve ranged from .70 to .88 for the behaviors of interest to Chrysalis (Brener, Collins,

Kann, Warren & Williams, 1995). Further, these reliabilities were lowest for seventh and eighth graders, and higher for high school students. This lends great confidence to the use of this instrument among high-school-aged youth in the Chrysalis program.

The resilience portion of the survey reflects intended outcomes of the project that relate to positive development. Children who succeed, despite having serious odds against them, are (a) more personally competent; (b) more socially competent; and c) more bonded to positive, pro-social influences (Benard, 1991). *The Individual Protective Factors Inventory* (IPFI), developed by Phillips and Springer (1992) operationalizes each of these three areas through three or four subscales.

Personal Competence. The IPFI contains four subscales to represent the domain of personal competence, relating to one's sense of personal identity. These subscales tap different dimensions of an individual's ability to function effectively and make decisions that influence her future.

- *Self Concept* — a positive self-image or "feeling good" about yourself. This is a prominent construct in prevention literature, and may be thought of as one facet of a more global notion of self-esteem.

- *Self Control* — the ability to control impulses, particularly antisocial impulses such as anger or violence. This is a commonly employed moderator or outcome variable in the literature on predelinquent behavior or early risk behavior.

- *Self Efficacy* — the sense that life can have a purpose and that one's actions can effectively achieve those purposes. This is a central theme in much of the literature on protective factors, similar to autonomy or internal locus of control.

- *Positive Outlook* — the general belief that life can have a positive outcome and that it is attainable, even probable, for oneself. This relates to themes such as healthy expectations, success orientation, and achievement orientation in the literature on positive youth development.

Social Competence. Three subscales of the IPFI represent the construct of social competence, defined as the ability to be responsive, caring, and flexible in social situations. Anyone, youth or adult, having these abilities will likely elicit positive responses and reinforcement from others. This is a highly protective factor, relating to the formation of positive interpersonal relationships.

- *Assertiveness* — the ability to stand up for oneself in social situations in reasonable ways. It is distinct from aggressiveness in that it connotes comfort, rather than hostility, in social situations.

- *Confidence* — The social dimension of self-esteem. It is the belief that one is liked and likable and that one will be accepted in a variety of social situations.

- *Cooperation*[1] — the desire to contribute to social groups of which one is a part. It includes an internalized sense of accomplishment and satisfaction that comes with contributing.

Social Bonding. The IPFI contains two subscales that assess the degree to which one has a positive affect and commitment to basic social institutions such as school and family.

- *School Bonding* — positive affect and motivation towards school, both currently and in the future. It includes the belief that education is important to future success and personal accomplishment.

- *Family Bonding* — positive affect toward family; a perception of support and positive interaction.

Support/Guidance. The IPFI contains three subscales to represent support/guidance, and relating to one's sense that there is a person who can be trusted when help or advice is needed.

- *Nurturance* — the feeling that there is someone who cares and can be depended on when help is needed.

- *Guidance* — the sense that there is a person in one's life who can be trusted to talk about problems with and be called upon for advice.

- *Support* — this is a combination of nurturance and guidance. It is the belief that there is someone who can be depended on for help when necessary and will be available for trustworthy advice.

Psychological constructs such as these are often difficult to measure. The authors of the IPFI compiled substantial psychometric data on the instrument in their prior use of it on a national sample of students, ranging from fifth to twelfth graders, and including all racial/ethnic groups. To justify the

[1] This scale was deliberately revised by the evaluators for this project. Project staff felt that the typical definition of cooperation and teamwork was not the goal for this population. These are young women who may have cooperated too much or been influenced too readily by abusive peers or adults. Reciprocity and making good choices in working with others are the key aspects of cooperation here.

use of the IPFI as a critical outcome instrument in this study population, the authors calculated internal consistency reliabilities on all subscales. These reliability data, from both the field test conducted by the instrument's authors (Phillips & Springer, 1992) and the current Chrysalis Project, lend considerable confidence in the reliability of the instrument. The coefficients in Exhibit 3.3 are evidence of excellent reliability even at the subscale level, most of which consist of only six items.

Exhibit 3.3
Reliability Coefficients of IPFI, Year Two
from National Field Test and Current Application

Domain	No. of Items	Field Test Reliability	Chrysalis Project Reliability
Personal Competence	12		
Self Concept	3	.58	.44
Self Control	3	.65	.67
Self Eificacy	3	.56	.37
Positive Outlook	3	.56	.70
Social Competence	10		
Assertiveness	3	.46	.60
Confidence	3	.59	.69
Cooperation	4	.65	.71
Social Bonding	6		
School	3	.61	.67
Family	3	.58	.81
Support/Guidance	10		
Nurturance	3	NA	.61
Guidance	3	NA	.79
Support	4	NA	.78

Other Assessment Instruments

Other data collection forms and evaluation instruments are used to document the implementation and effectiveness of the project, gather information on individual needs and priorities for program services, student achievement, attendance, dropout rates, and progress toward meeting the district's graduation standards. Descriptions of these tools and the frequency of their use follows.

Chrysalis Intake Form. This form collects information on students referred to the program and facilitates the random assignment of girls to program or control groups. A scannable intake form was developed for use in Year Three. (The form is completed once, as the student enters the program.)

Needs Assessment. This instrument collects information on students selected to participate in the program. The assessment asks students to identify their interests and needs and helps case managers establish priorities for service. (The form is completed once for each program student.)

Chrysalis Follow-up Survey. This abbreviated form of the *Risk and Resiliency Index* focuses on key subscale items to assess the longitudinal impact of the project after students have received two years of services. (The survey will be administered yearly to participants in post years 1 and 2.)

Chrysalis Database. The Chrysalis database tracks information on intervention and control group students. It consolidates demographic and program participation information from existing sources, such as the PPS Student Master Database, i.e., gender, ethnicity, test scores, grades, absences, and disciplinary violations. The database contains information such as the following:

- *Graduations Standards Test/CARAT.* The Graduation Standards Tests (GST) in Reading and Mathematics must be successfully passed for a student to obtain a standard diploma. Students may complete either the paper-and-pencil test or the electronic Computerized Adaptive Reporting and Testing (CARAT) version of the Graduation Standards Test. (These tests will be administered yearly to students in the program who have not yet passed.)

- *School Grades* — Student grade point averages are recorded from school records. (GPA is calculated once each year for all students involved in the program.)

- *Number of Absences* —The total number of annual student absences is recorded from the District database. (Information is collected in June.)

- *Number of Suspensions* — The number of suspensions students had each year is recorded from the District database. (Information is collected in August.)

Case Manager's Contact Log. This log documents ongoing case management contacts, activities, and communication with project students. (This form is submitted monthly by case managers.)

Chrysalis Activity Log. This log is also filled out by case managers to identify activity topics and to document students' participation in all Chrysalis activities. Data from these logs are used to quantify the dosage level of the program for each student.

Girls' Empowerment Pre-Post Survey. This brief survey is administered to the Chrysalis participants before and after their participation in the Girls Empowerment Course. It assesses their level of knowledge, attitudes, and skills in a variety of physical safety and self-defense areas.

Methods / Procedures

Evaluation data were collected directly from Chrysalis and Research group students, from school records, and from project staff. Substantial information on students was collected from existing data files to minimize intrusion on students and staff. For example, the district's student master database provides the capability to follow students who move from school to school during a school year and from grade to grade over the years of the project. These longitudinal files and information systems provide abundant baseline data to document the extent to which the project increased prevention capabilities among the young women in the project. It is important to note that the student database is operated in ways that ensure the confidentiality of student data (online access is secured by multiple passwords, access-protected files, and data are stored in locked offices).

Exhibit 3.4 summarizes the data collection instruments and timelines employed in Year Two. All information is summarized and reported annually to project staff and school-based case managers.

Exhibit 3.4
Summary of Data Collection Procedures, Year Two

Instrument	Purpose	Timeline
Chrysalis Intake Form	Student Intake	Sep. 4, 1995 - Dec. 15, 1995
Process Evaluation		
Needs Assessment	Program planning	March 1996
Case Manager Contact Log	Documents contacts with students by case manager	Monthly
Attendance/Activity Log	Documents attendance and curriculum dosage	January and June 1996
Girls Empowerment Survey	Assessment of physical safety & self-defense skills	Winter 1996
Challenge Course Survey	Measure of locus of control	Spring 1996
Program Observations	Description of project activities	Quarterly
Interviews	Assessment of satisfaction with program	Quarterly
Case Studies	Student stories	Bi-monthly
Outcome Evaluation		
Risk & Resiliency Index	Assessment of risk and resiliency factors	October 1995 (pretest) May 1996 (posttest)
CSAP National Youth Survey	Student attitudes & drug use	Planning for Year 3 implementation
School Indicators: Graduation Standards Test School Grades School Attendance School Discipline	Progress towards graduation standards, academic achievement, school performance, and school bonding	 April 1996 June 1996 July 1996 August 1996
Interviews	Outcomes and impact of project	Quarterly

Training of Data Collectors

All members of the Project Chrysalis research team that have contact with project students have been trained in the current literature related to high-risk youth, specifically as it relates to female adolescents and physical/sexual abuse. Observations and case study research are conducted by female researchers trained in cultural competence and sexual abuse issues. The Waverly contract child abuse therapist provided a four-hour advanced training in the trauma model for program staff and the evaluation team in January 1996.

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Privacy and confidentiality is of the highest priority in the evaluation of this project. The members of the evaluation team received orientation and training in confidentiality at the beginning of the project and protocols were established for transferring information, contacting students, and other necessary data collection procedures. Data collection which requires student contact was done only by evaluators trained in sexual abuse issues. Access to student data is strictly on a "need to know" basis with only the Chrysalis coordinator, school case managers working with given students, and the evaluators having access to student information.

State laws and district regulations require staff and evaluators to report abuse regardless of a student's wish for confidentiality. Students are informed at their first contact with the project, prior to intake, that staff must comply with child abuse reporting procedures. All incidents of abuse are verified with the state child protection services agency. Students who reveal physical, sexual, or emotional abuse to any project staff are informed that a report of the incident will be made to school police. At this time, students also receive counseling support and referral to appropriate professional treatment providers in the community. Chrysalis maintains confidentiality of client records in accordance with the provisions of Title 42 of the Federal Regulation Code, Part 2 (42 CFR, Part 2).

Data Analysis

Data collection and analysis activities in the Year Two evaluation of the Chrysalis project included both qualitative and quantitative efforts. Qualitative data collection and analysis activities consisted of observations, interviews, and case studies of a small sample of Chrysalis and Research group participants. Quantitative analysis of self-report survey (*Risk and Resiliency Index*) and student records (Portland Public Schools Student Master Database) data consisted of the following methods:

Descriptive statistics were computed to represent the youths' prevalence rates on key risk behaviors, average scale scores on protective factors and indicators of academic performance.

Correlations were computed to assess the relationship between levels of program participation (dosage), initial risk level and protective factors, health risk behaviors and academic indicators.

Inferential analyses — chi-square and analysis of variance (ANOVA) — were conducted to determine whether relationships among the process and outcome variables, or changes over time, were statistically significant.

Results presented in the following sections and chapters of this report will be those obtained from various combinations of these methods. For example, in looking at the effects of the Chrysalis program on the sexual behavior of these young women, the prevalence rates of sexual intercourse and pregnancy will be displayed in a descriptive manner for both Chrysalis and Research groups; correlations between these behaviors and the risk level of all participants will be reported; correlations of these behaviors with program participation (total dosage and by program component) will be presented for Chrysalis participants; and the significance of any changes in these behaviors will be assessed though a multi-factor ANOVA design.

The Repeated Measures ANOVA design used to assess the significance of change is shown in Exhibit 3.5 below. The design consists of two "between subjects" factors by which students are uniquely classified: Group (Chrysalis or Research) and Grade Level (9, 10, 11 or 12). It also includes a "within subjects" factor that crosses all students: Time (fall pretest and spring posttest).

Exhibit 3.5
Repeated Measures ANOVA Design

Group and Grade Level		Fall 1995 Pretest	Spring 1996 Posttest
Chrysalis Group	Grade 9		
	Grade 10		
	Grade 11		
	Grade 12		
Research Group	Grade 9		
	Grade 10		
	Grade 11		
	Grade 12		

The design includes seven testable effects: three main effects, three first order (two-way) interactions, and a single second order (three-way) interaction. Significant design effects will be reported in the discussion of results for each of the key outcomes. To assist in the interpretation of these effects, brief definitions that apply to all outcomes are provide on the following pages.

Main Effects

The *Group* main effect assesses whether the difference between Chrysalis and Research group students (across time and grade levels) is significant.

The *Grade Level* main effect assesses whether the differences among students at different grades, regardless of what group they are in and across the two time periods, is significant.

The *Time* main effect assesses whether the difference across the two time periods (Fall and Spring of this Year Two of the project) is significant, regardless of which group or grade level the young women are in.

First Order Interactions

The *Group by Grade* interaction assesses whether any differences between the two groups are the same or different across grade levels. It essentially tests whether the results of the Group main effect apply consistently to all grade levels, or whether it is different depending upon which grade level a student is in.

The *Group by Time* interaction assesses whether changes over time are consistent for both groups of students.

The *Grade by Time* interaction assesses whether changes over time are consistent for students in each grade level.

Second Order Interactions

The *Group by Grade by Time* interaction assesses whether any of the first order interactions described above are consistent for all levels of the third factor. For example, if a significant Group by Time interaction were found (e.g., that Chrysalis students showed an increase in a given outcome, while Research students did not), but that this was the case only for ninth and tenth graders, and not for eleventh and twelfth graders, this would represent a Group by Grade by Time interaction.

In the inferential analyses discussed throughout the Results section, the effects of primary interest will be all of those involving the Group design factor, i.e., the Group main effect, the Group by Time interaction, the Group by Grade interaction and the Group by Grade by Time interaction. All of these include the fundamental comparison of interest to the study — the difference between young women in the Chrysalis and Research groups.

A second set of Repeated Measures ANOVAs was run, using a design that is parallel to that shown earlier in Exhibit 3.5. In these analyses, however, a *Risk Level* design factor was substituted for the Grade Level factor in the design shown above. All eligible students, Chrysalis and Research, were classified as high-, medium- or low-risk based on the number of risk factors elicited at their Intake interview. Low-risk students were those having one to three risk factors (note that all students in both groups had, by definition of their eligibility for the project, at least three risk factors: victims of abuse and two other risk factors); medium-risk students possessed four to seven risk factors; and high-risk students reported eight or more risk characteristics.

Results from both sets of ANOVAs will be described throughout the following chapter.

Chapter 4. Results

Analysis of Initial Comparability of Treatment and Comparison Groups

The Project Chrysalis evaluation used a random assignment technique to ensure that the students selected for the intervention or Program group and the control or Research group had similar characteristics at the start of the project. During Year Two of the project, random assignments of students to the intervention and control groups were based primarily on the demographic characteristics of age, grade, and ethnicity. Multiple analyses in Year Two confirmed the initial comparability of the intervention and control groups in demographic characteristics and risk factors.

Demographic Characteristics

The age, grade level, and geocultural group distributions of the 189 Chrysalis Program (intervention) students and the 181 Research group (control) students in Year Two are shown in Exhibits 4.1, 4.2, and 4.3. Statistical significance tests, using the chi-square technique, yielded no significant differences between these two groups on all three indicators. Exhibit 4.1 shows that the age of the average Project Chrysalis student in Year Two was 15½ years.

Exhibit 4.1
Age of Female Adolescents, Year Two

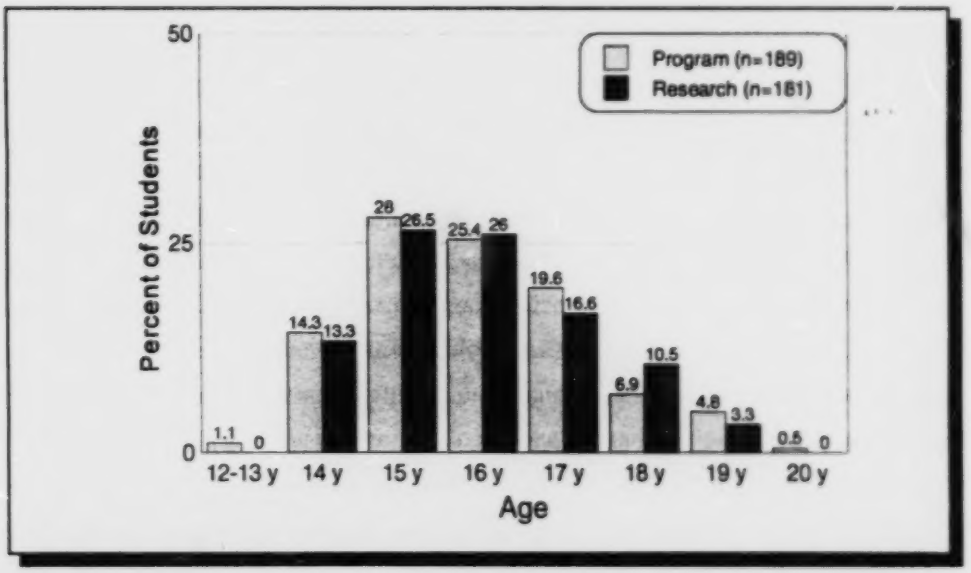


Exhibit 4.2 displays information on the grade levels of participants during the 1995-96 school year. Most students in Year Two were freshmen; approximately 39 percent of the participants were in grade nine. Students in grade 10 and grade 11 made up approximately 25 percent of the groups, with a small number of students from other grades.

Exhibit 4.2
Grade Level of Female Adolescents, Year Two

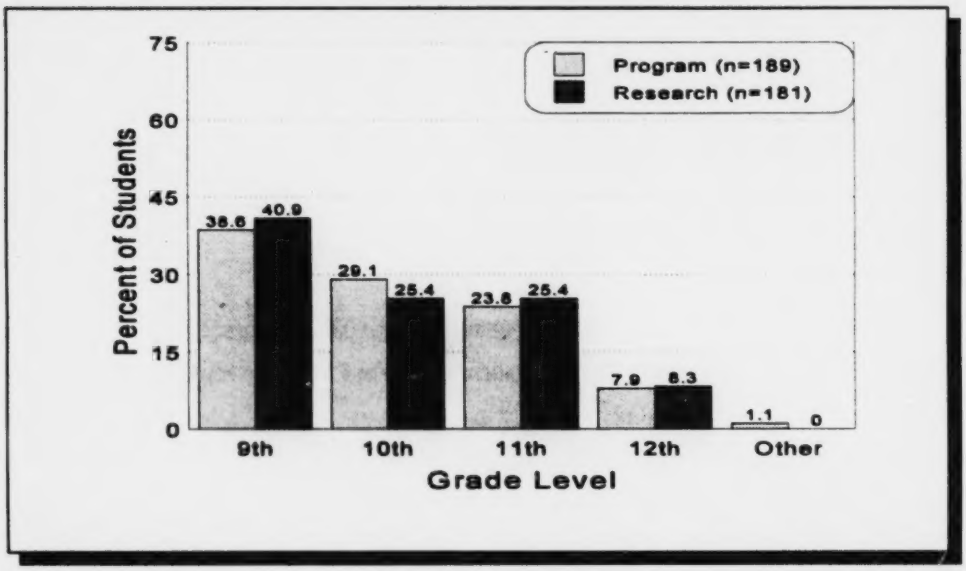
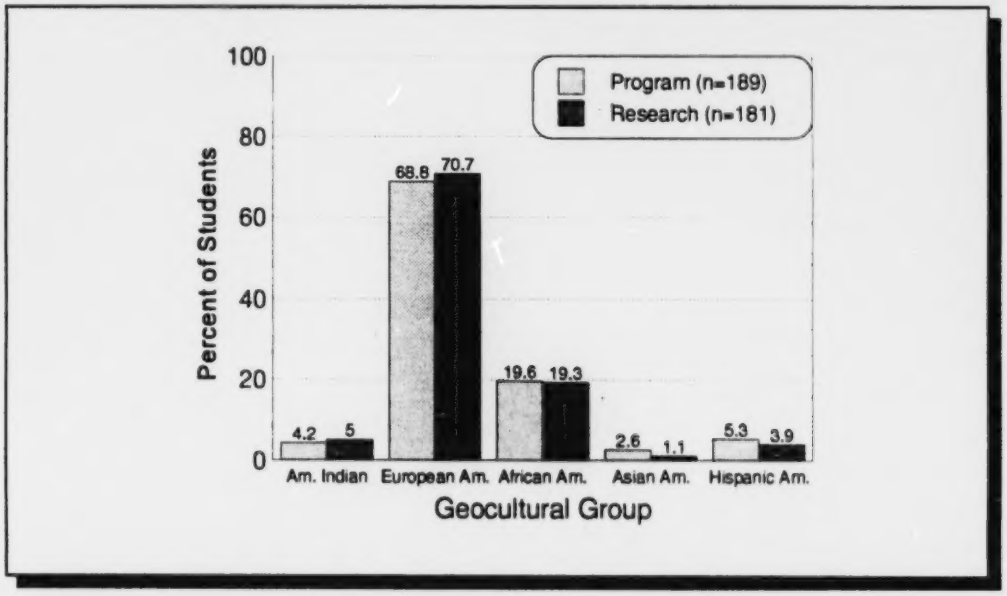


Exhibit 4.3 shows the composition of the Program and Research group students by geocultural group. The Chrysalis and Research groups are virtually identical in their geocultural composition. Another frame of reference in the examination of ethnicity is the composition of geocultural groups in the full high school populations of the twelve participating schools in the district. The overall project has a slightly higher proportion of American Indian students and a lower proportion of Asian American students than the general population represented in the district high schools. The ethnic enrollment in the district high schools was: 1.8 percent American Indian, 66.5 percent European American, 16.1 percent African American, 11.0 percent Asian American, and 4.6 percent Hispanic American. In Year Three, the project continues to investigate further strategies for improving the participation of underrepresented groups. In addition, the random assignment process was adjusted to select more minority students into the intervention, when other variables are equivalent.

Exhibit 4.3
Geocultural Group of Female Adolescents, Year Two

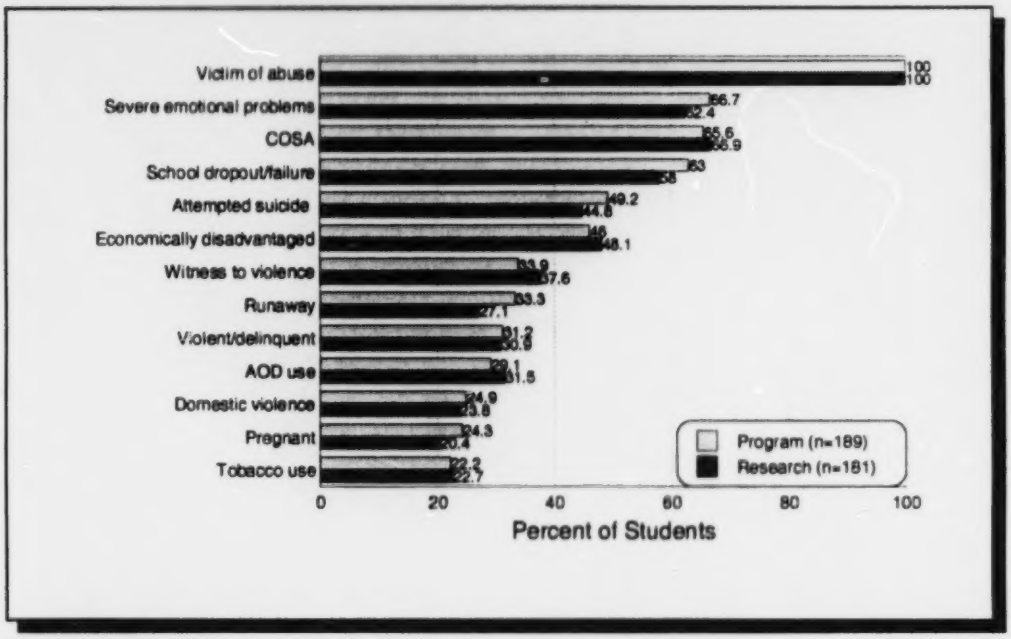


Risk Factors

During the second year of the project, students were referred for possible enrollment based on an array of 24 risk factors. The intake interview, which preceded the random assignment to groups, systematically assessed whether or not each of these risk factors was in evidence in each student's background. Exhibit 4.4 summarizes the top 12 risk factors common among Chrysalis Program and Research group students in Year Two. The risk factors were also categorized by domain: school, individual, family, peer, and community. Chrysalis and Research group students primarily show risk indicators in the individual, family, and school domains. The most frequently reported risk factors in the individual domain were childhood abuse and severe emotional problems. The most frequently reported risk factor associated with the family domain was a family history of substance abuse. The school domain's most common risk factor was dropout/chronic school failure. The types and prevalence of risk factors reported for students at intake were consistent over year one and two.

As is clearly shown in the display, all students had a history of physical or sexual abuse — this was the defining characteristic of the target population of the project. Nearly two of every three students indicated they were children of substance abusers or reported severe mental health problems. Over half were experiencing chronic school failure, suicide ideation, or economic disadvantages.

Exhibit 4.4
Prevalence of Top 12 Risk Factors, Year Two



Project Chrysalis modified the student intake form to expand the number of risk factor characteristics in August 1995. Based on current prevention literature, the list of risk factors was expanded to include other variables, such as tobacco use, witness to violence, victim of domestic or school violence, runaway, and parent involvement in the criminal justice system. As in the demographic comparisons, there were no significant differences between the two groups of students on the prevalence of any of these risk factors. This provides great confidence that the two groups can be considered equivalent on these baseline indicators. A complete summary of the Year Two risk factor characteristics for the Program and the Research group students is in Appendix E.

Exhibit 4.5 summarizes the type of abuse reported by Chrysalis students at intake. Abuse categories are physical, sexual, emotional abuse, or any combination. A third of the participants have experienced emotional abuse. One in four students has a history of sexual abuse. Approximately 10 percent of the students have been physically abused or had some combination of physical, sexual, and emotional abuse. The abuse history of the Chrysalis Program group and Research group students is deemed equivalent across the various types of abuse.

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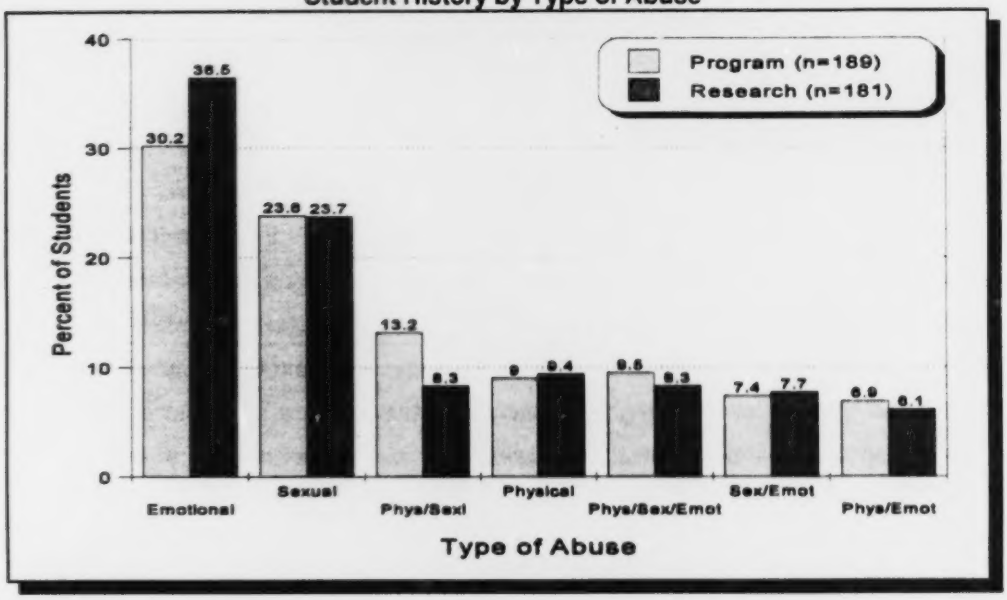
Exhibit 4.5
Student History by Type of Abuse



Attrition / Attrition Analysis

As was noted in Chapter 2 of this report, the project benefited from having 91 Program girls who had participated in the year one pilot, continue their participation during Year Two. This resulted in less attrition among the continuing students as only seven Chrysalis youth did not recommit to participate in the Year Two program. Chrysalis has defined three levels of program participation and attrition: 1) active students are enrolled in school and participating in both program and evaluation activities, 2) *level 1 inactive* students are "inactive" in the project either because they are not enrolled in school or did not participate in at least one annual outcome evaluation assessment, and 3) *level 2 inactive* students are not enrolled in school and not participating in any evaluation activities.

Of the 189 Chrysalis Program youth, 67 percent (n=126) were active at the end of Year Two. The Program group lost 63 students to attrition; 24 percent (n=45) were *level one inactive*, youth not involved in the program, but active in evaluation activities and 9.5 percent of the girls (n=18) were *level two inactive* in both program and evaluation activities. Among the 181 Research youth, 70 percent (n=127) were active at the end of the year. Attrition in the Research group was 54 students; 24 percent of the girls (n=44) were *level one inactive* either due to dropping out of school or not completing at least one outcome evaluation during the year. Six percent of the Research girls (n=10) were *level two inactive* due to not being enrolled in school and not participating in the evaluation.

These data slightly overestimate attrition as some students completed pre and post-surveys through first-class mail and thus remained actively involved in the evaluation activities. Data on student participation indicated that of the 63 "inactive" Chrysalis students in Year Two, 22 were school drop-outs, 14 moved out of the district, 11 transferred to GED programs, 7 did not recommit to take part in Year Two activities, 5 were runaways, and 4 were untraceable after three attempts to reach them.

Analysis finds that the overall attrition rate for the Program Group is 9.5 percent (n=18) vs. a 5.5 percent attrition rate for the Research Group (n=10). The project staff speculate that this slightly higher rate of attrition among Program participants is due to the difficult self-work that the young women are asked to do in Chrysalis support groups to recover from child physical, sexual, and emotional abuse. Attrition is lower among Research students because they are not participating in recovery-related program activities and because they value the incentives they receive for participation in the evaluation activities. The demographic characteristics of the "active students" analyzed in this report are equivalent to the whole group of Chrysalis participants at intake.

Statistical Analysis for Key Dependent Measures

The intended outcomes of Chrysalis fall into several distinct areas, as previously noted. Before examining the results of those comparisons, however, a word about the limitations of the data is in order. The early years of any demonstration project are fraught with the difficulties of initiating an innovative program: changes in staff, recruiting new students, developing program fidelity, establishing reliable data collection, etc. Chrysalis was no stranger to these difficulties. While the project refined staff and implementation issues, the data collection was also restructured. During Year Two, the evaluators administered the pre and post *Risk and Resiliency Index* to students at the students' schools or via first-class mail to their homes. While this maximized the number of surveys that could be collected, it also increased the potential for error. A third of the project participants completed only one outcome assessment, either because they were absent from school the day the survey was administered or because they did not return the mailed survey. This eliminated significant data from the analysis. The statistical analysis was limited to only students with complete *Risk and Resiliency Index* data (fall pretest and spring posttest) in order to measure change in the attitudes or behaviors of the young women. The number of pre and post Risk and Resiliency surveys analyzed for Year Two was 76 for the Program Group and 96 for the Research Group.

The analysis of four sets of dependent measures, along with two case studies, will be presented:

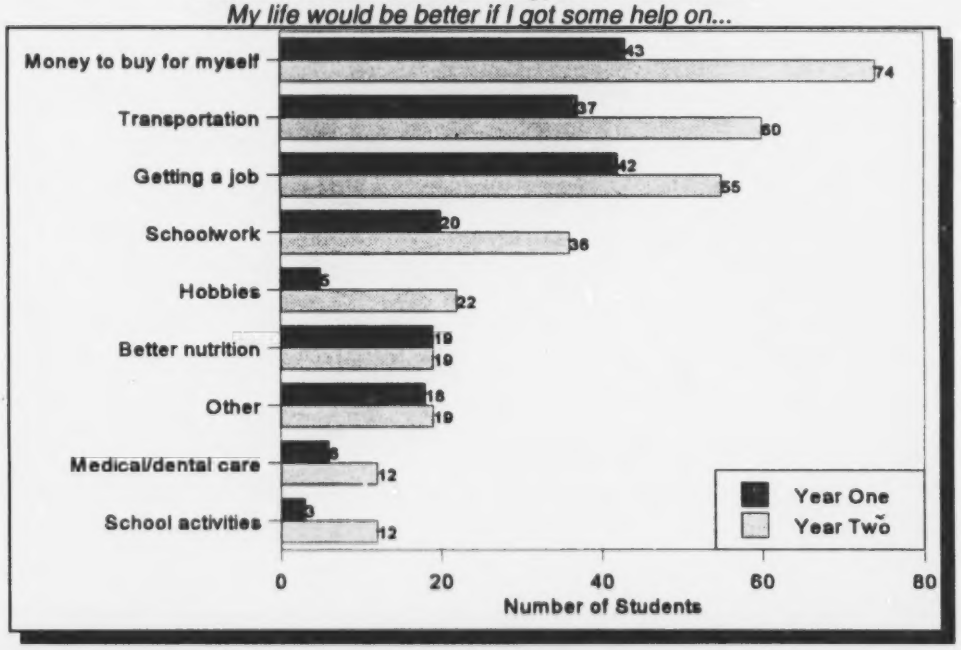
- the initial needs assessment for Chrysalis students;
- results for Chrysalis and Research groups for the health risk behaviors measured by the *Risk and Resiliency Index;*
- results for both groups for the protective factor portion of the *Risk and Resiliency Index*; and
- results for both groups in the analysis of school achievement and attendance records.

Needs Assessment

Case managers interviewed each of the Program students at the outset of the project to determine which specific areas of their lives the young women were most interested in improving. These data assisted case managers in tailoring the work with the young women to correspond with their own stated needs. At an aggregate level, these data assisted project management in determining the extent to which the program design was congruent with the expressed needs of the participants.

A needs assessment survey was distributed to new Year Two participants (n=53) in March 1996. Exhibit 4.6 lists the possible areas the girls could choose, along with the percentage of students selecting each area as one of the three they were most interested in. The tendency to choose concrete, material needs is evident in these results. The most frequently selected areas in Year Two needs assessment were *money to buy something for myself*, *transportation*, and *getting a job*.

Exhibit 4.6
Needs Assessment Summary, Year 1 and Year 2
My life would be better if I got some help on...

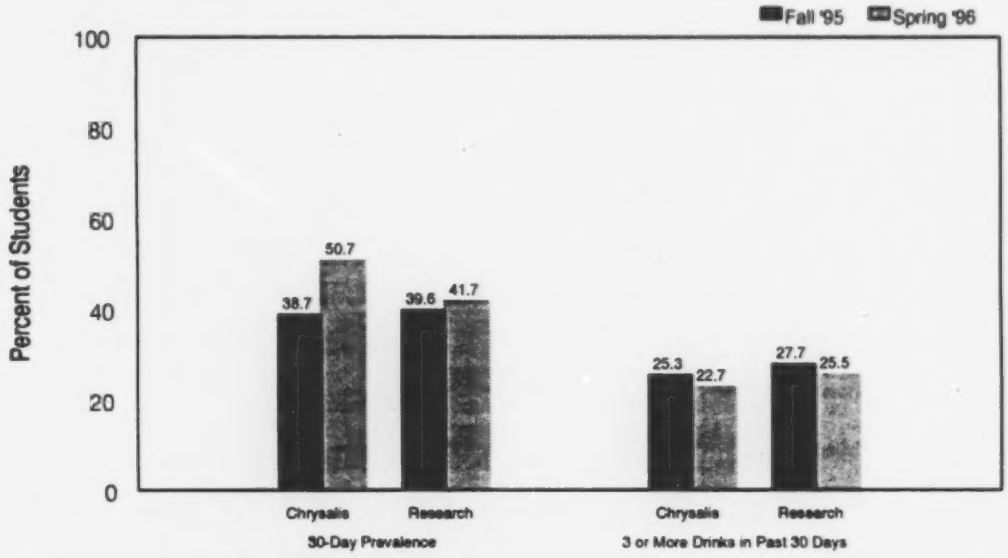


Health Risk Behaviors

Alcohol Use

The prevalence of varying patterns of alcohol use for both Chrysalis and Research group students is shown in Exhibit 4.7a. The data represent students who responded to these questions at both the pre and post assessment points (fall 1995 and spring 1996) in order to assess students' level of use over time for each group. They also include only students who received a sufficient "dosage" of Chrysalis activities deemed by project staff to be one-third of all available program activities.

Exhibit 4.7a
Prevalence of Alcohol Use
Year 2 Fall and Spring Results for Chrysalis and Research Groups



Based on students taking both Fall and Spring surveys and (Chrysalis) participating in at least 1/3 of the program activities (Chrysalis N=76; Research N=96)

At the beginning of the school year, about four out of ten Chrysalis and Research girls said they had been drinking in the past 30 days. In the spring, this number essentially remained the same for Research students, while it increased to one out of two Chrysalis students who said they drank in the past month.

The percentage of both Chrysalis and Research students who reported consuming three or more drinks on the days that they drank was reduced slightly between pre and posttest in Year Two. The rate of Chrysalis students declined from 25.3 percent in the fall to 22.7 percent in the spring, and the percentage of Research students declined from 27.7 percent to 25.5 percent.

The primary evaluation interest is in the difference between Chrysalis students and Research students over time. A repeated measures analysis of variance (ANOVA) is the design used to test the statistical significance of differences in this study. As described earlier, the two repeated measures designs control for grade level, risk level, and time, as the prevalence of most health risk behaviors tends to increase with grade and risk level. The ANOVA results for the Group x Risk x Time design are shown in Exhibit 4.7b below. The factor of most interest is the two-way Interaction between "Group and Time." A significance level at or below 0.05 on this factor indicates that Chrysalis and Research students have changed in significantly different ways between the fall and spring assessment points.

Exhibit 4.7b
Repeated Measures ANOVA for Alcohol Use

	Use of Alcohol in Past 30 Days		Number of Drinks When Drank Alcohol in Past 30 Days	
Main Effects	F Statistic	Significance Level	F Statistic	Significance Level
Group	.18	.671	.08	.772
Risk Level	.95	.388	1.14	.322
Time	1.93	.167	2.51	.115
Two-Way Interaction				
Group x Risk	1.24	.292	.37	.691
Group x Time	3.56	.041*	.03	.865
Risk x Time	.76	.469	.11	.897
Three-Way Interaction				
Group x Risk x Time	.90	.407	.02	.977

* $p<.05$

The Two-Way Interaction between Group and Time on 30-day alcohol use is statistically significant ($p<.05$), meaning that it is likely that the difference in the number of days students drank in the past 30 days between the two groups over time is different, depending upon the group to which a student

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belonged. In other words, Chrysalis students changed their prevalence of alcohol consumption in the past month in ways different than Research students. Unfortunately, this change is not in the direction hoped. The percentage of Chrysalis students reporting consuming alcohol in the past 30 days increased by 12 percent from the beginning of the school year to the end, while Research group students increased by about 2 percent. When they drank alcohol in the past month, both Chrysalis and Research students drank similar amounts, as there are no significant differences in the repeated measures ANOVA.

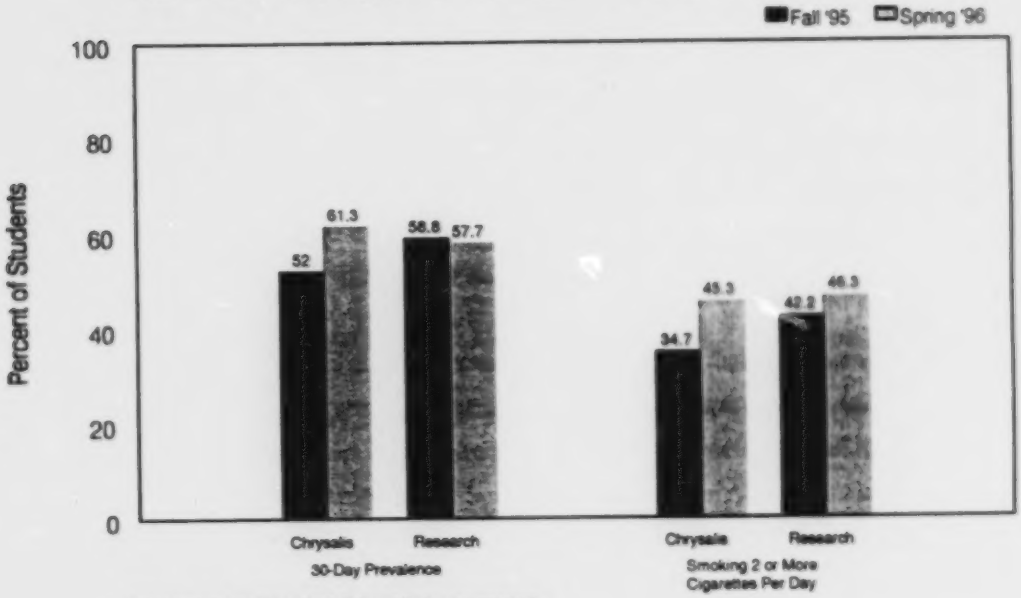
Among the Chrysalis girls only, there was a significant correlation between their participation in the Girls Empowerment program component and 30-day alcohol use. Fewer of the Chrysalis young women who participated in this component reported alcohol use in the previous 30 days. This suggests that this program component has a positive influence on alcohol use among these young women, and has implications for program staff in the coming year. While these correlational results never prove causality, it clearly merits the recommendation to encourage greater participation in Girls Empowerment in the coming year.

Unlike most of the other health risk behaviors reported here, there was no relationship between alcohol use and students' entering risk level in either group. It may be that alcohol use in this population and among high school students in general is a common enough adolescent health behavior that risk background does not explain it. Grade level differences (not shown in Exhibit 4.7b) were similarly non-significant, although there were small differences to indicate that older students were more likely to drink than younger students.

Cigarette Smoking

The self-reported prevalence of cigarette smoking is displayed in Exhibit 4.8a. Tests of significance conducted through the repeated measures ANOVA follow in Exhibit 4.8b. More than half of all project students at both assessment points said they have smoked cigarettes in the past 30 days. The percentage of Research students who answered "yes" to this question remained essentially the same between fall (58.8%) and spring (57.7%). Chrysalis students increased their use. In the fall, they were about seven percentage points below Research students. Their rate increased by about 9 percent, putting the percentage of Chrysalis girls slightly higher than Research youth in the spring.

Exhibit 4.8a
Prevalence of Smoking Cigarettes
Year 2 Fall and Spring Results for Chrysalis and Research Groups



Based on students taking both Fall and Spring surveys and (Chrysalis) participating in at least 1/3 of the program activities (Chrysalis N=76; Research N=96)

Exhibit 4.8b
Repeated Measures ANOVA for Cigarette Use

	Use of Cigarettes in Past 30 Days		Number of Cigarettes Smoked When Smoked in Past 30 Days	
Main Effects	**F Statistic**	**Significance Level**	**F Statistic**	**Significance Level**
Group	.09	.763	.63	.429
Risk Level	2.91	.057	1.25	.289
Time	16.99	.001*	.19	.663
Two-Way Interaction				
Group x Risk	1.04	.357	1.42	.244
Group x Time	3.39	.067	.14	.708
Risk x Time	1.86	.160	.02	.978
Three-Way Interaction				
Group x Risk x Time	2.10	.126	.72	.490

* $p<.05$

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When taking the full pattern of number of days smoking into account in the ANOVA, there is a highly significant Time main effect ($p<.001$) and a marginally significant Group by Time interaction. Looking in greater detail at responses to these items, about one-third (32%) of the young women in both groups smoked on 20 or more of the past 30 days in the fall, while this rate rose to over 41 percent in the spring across both groups. So, while the percent of students who smoked at all rose more in Chrysalis than among the Research group, the actual frequency of smoking (the number of days smoking rather than simply whether or not they smoked) was more similar among both groups over time. This significant increase in the frequency of smoking for both groups, the Time main effect, is a serious concern for this population, however, and one the project may want to address directly.

On the days they smoked, both Chrysalis and Research students increased the number of cigarettes they smoked. Similar to the prevalence of cigarette smoking, the percentage of Chrysalis students was lower than Research students in the fall, but increased to essentially the same level as Research students in the spring. These differences were not statistically significant, however.

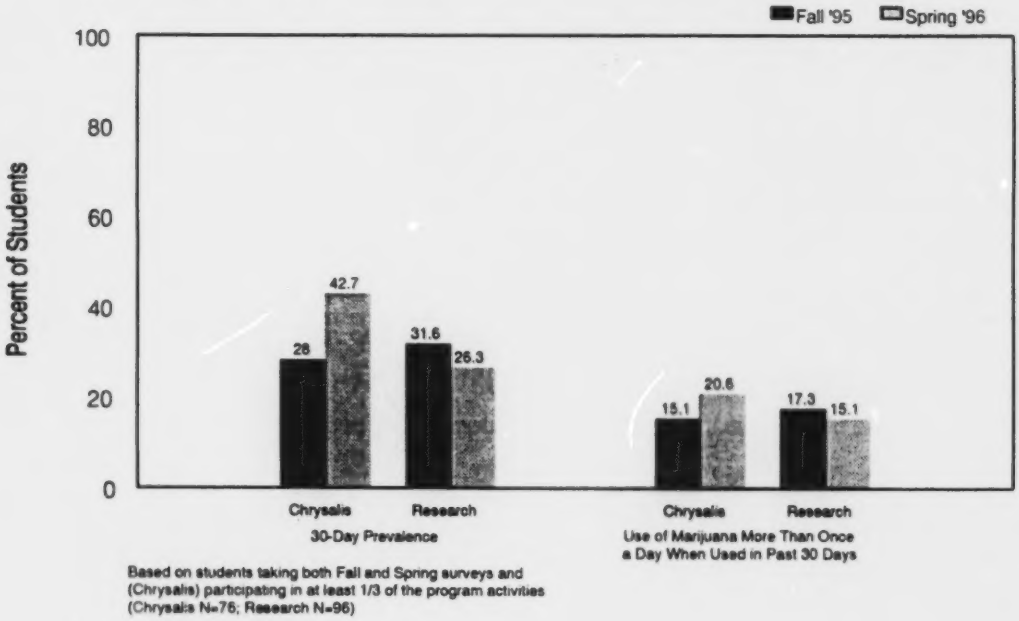
None of the program participation (dosage) indicators related to cigarette smoking among Chrysalis students were significant. Initial risk level was moderately related to this behavior, as evidenced by the marginally significant Risk Level main effect ($p<.057$) in the ANOVA table. This relationship indicated that the higher risk students in both groups were more likely to have higher prevalence rates of cigarette smoking. There were also no significant differences across grade levels.

Marijuana Use

The self-reported prevalence of marijuana use is illustrated in Exhibit 4.9a. Tests of significance conducted through the repeated measures ANOVA follow in Exhibit 4.9b. In the fall, a slightly higher percentage of Research students reported using marijuana in the past 30 days than did Chrysalis students. In the spring, however, a far greater proportion of students said "yes" to this question, while the percentage of Research students essentially stayed the same.

A similar pattern emerges when students were asked to report the number of times they used marijuana on the days that they used it. In the fall, Chrysalis and Research students reported similar use of marijuana in each category: once a day, twice a day, and three or more times a day. In the spring, the percentages for Research students decreased slightly, while for Chrysalis students the frequency of use increased.

Exhibit 4.9a
Prevalence of Marijuana Use
Year 2 Fall and Spring Results for Chrysalis and Research Groups



Based on students taking both Fall and Spring surveys and (Chrysalis) participating in at least 1/3 of the program activities (Chrysalis N=76; Research N=96)

Exhibit 4.9b
Repeated Measures ANOVA for Marijuana Use

	Use of Marijuana in Past 30 Days		Amount of Marijuana Used When Used in Past 30 Days	
Main Effects	F Statistic	Significance Level	F Statistic	Significance Level
Group	2.59	.109	1.18	.279
Risk Level	3.31	.039*	4.69	.010*
Time	4.46	.036*	1.60	.208
Two-Way Interaction				
Group x Risk	10.32	.019*	3.01	.042*
Group x Time	4.46	.036*	6.21	.014*
Risk x Time	1.49	.229	.83	.436
Three-Way Interaction				
Group x Risk x Time	1.49	.229	.49	.612

* $p<.05$

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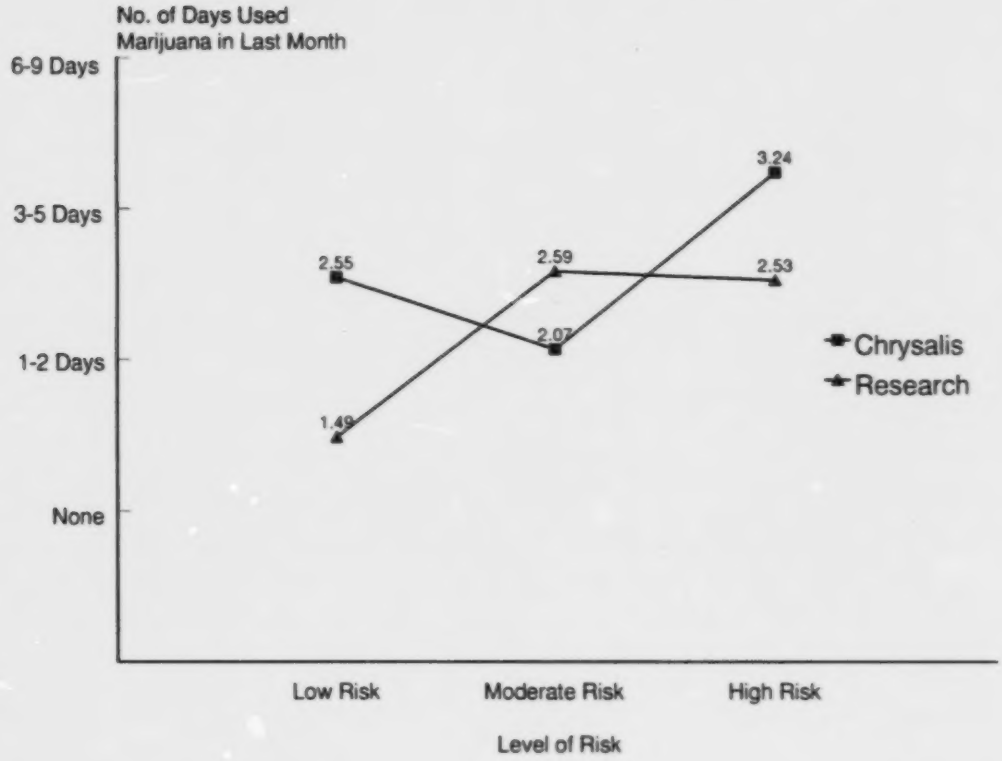
The ANOVA results in Exhibit 4.9b confirm that changes over time in use of marijuana in the past 30 days between the two groups are statistically significant (Group x Time interaction, $p<.036$). There are also significant differences among students at different risk levels ($p<.039$), and a significant Group x Risk interaction. In general, students at higher risk levels were more likely to be marijuana users. The Group x Risk interaction somewhat modifies the generalizability of this relationship.

The Group by Risk interaction is particularly interesting in that it suggests that increases in marijuana use associated with increasing risk levels among the students are not the same in Chrysalis and Research groups. Exhibit 4.10 displays the pattern of 30-day marijuana use for high, medium and low risk students in both groups at posttest time. In the Research group, there is increased marijuana use among "moderate risk" students over those at "low risk," but there is little change in marijuana use between "moderate risk" and "high risk" students. In Chrysalis, however, the lowest level of marijuana use is among "moderate risk" students, suggesting perhaps that the program is most successful in reducing marijuana use among students at this risk level. In viewing these results, program staff are discussing the extent to which their activities are tailored more to this group than those in either low or high risk categories.

Results on the amount of marijuana used in the past month by the two groups presents a similar picture. The two-way Interactions of Group by Risk and Group by Time are statistically significant ($p<.042$, $p<.014$, respectively), indicating that it is highly likely that the difference between the two groups in the amount of marijuana used over time can be explained by the group and risk level to which they belong. When they used marijuana, Chrysalis students used more at the end of the school year than they did in fall, while Research girls slightly decreased the amount they used.

Higher levels of program participation again influence these behaviors among Chrysalis students. A significant negative correlation exists between the number of support groups attended and 30-day marijuana use, meaning the more support groups a Chrysalis student attended, the lower her reported use of marijuana. Similarly, participation in the Girls Empowerment component is associated with lower marijuana use rates. Implications for the Chrysalis program are again clear: program staff will focus even more strongly on increasing participation in the support group and Girls Empowerment components in an effort to more positively affect this troubling behavior.

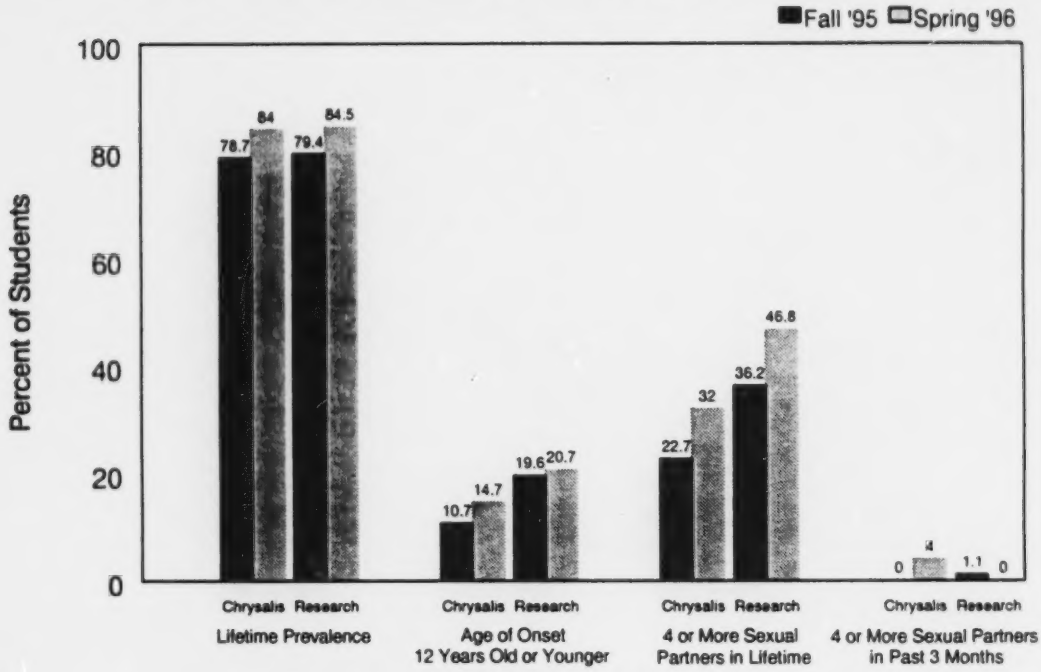
Exhibit 4.10
Relationship Between Risk Level and Marijuana Use for Chrysalis and Research Group Students



Prevalence of Sexual Activity

Exhibit 4.11a presents information on the prevalence of sexual activity among Chrysalis and Research Group students on the pre and post assessment. The percentage of students who reported being sexually active in both groups is very similar. In the fall, 78.7 percent of Chrysalis students answered "yes" to this question, and in the spring it was 84.0 percent. For Research students these percentages were 79.4 (fall) and 84.5 (spring). This approximately 5 percent increase in both groups may indicate the percentage of students having intercourse for the first time during this period, or it could reflect unreliability in their responses to the question. In either case, this level of lifetime prevalence in both groups is far higher than that reported by high school females across the nation (52%: CDC, 1996).

Exhibit 4.11a
Prevalence of Sexual Activity
Year 2 Fall and Spring Results for Chrysalis and Research Groups



Based on students taking both Fall and Spring surveys and (Chrysalis) participating in at least 1/3 of the program activities (Chrysalis N=76; Research N=96)

In the spring survey, more Research students (20.7%) than Chrysalis students (14.7%) reported having sexual activity at or before age 12. The four percent increase among Chrysalis students from fall to spring may reflect increased willingness to disclose this personal information about their past. Again, these rates are far higher than the national average.

An additional survey item added in the spring asked these young women whether their first sexual intercourse was an "abusive incident." More than half (54.5%) of the nearly 20 percent of Chrysalis students who had reported their first experience at 12 years of age or earlier responded that it was. This may place considerably different interpretation on the "age of onset" figures shown in Exhibit 4a. It could reduce (non-abusive) initiation of sexual activity by 12 years of age to as low as 10 percent and 6 percent for Chrysalis and Research students, respectively. However, these survey data alone are not sufficient to deduce this reduction with certainty. Other sexual encounters (other than the first) prior to the age of 12 may not have been abusive, suggesting that early onset

prevalence rates are close to those displayed in the exhibit. Tying early sexual experiences to an initial abusive incident is extremely important, however, and the high prevalence rate for this initiation is validating to the Chrysalis program staff and administration. Laws and Gabriel (1995) summarized research that suggested that nearly one in three adult women had been victimized by sexual abuse at one time in their adolescent or pre-adolescent lives. Evidently, the Chrysalis program is targeting this special population quite well.

For both groups, the rate of students reporting having four or more sexual partners in their lifetime increased by about ten percent between the fall and spring surveys. Altogether, there were very few project students who reported having four or more sexual partners in the past three months; however, this percentage increased slightly for Chrysalis students in the spring.

Exhibit 4.11b
Repeated Measures ANOVA for Sexual Activity

	Lifetime Prevalence		Age of Onset		Number of Sexual Partners		Number of Sexual Partners in Past 3 Months	
Main Effects	F Statistic	Significance Level	F Statistic	Significance Level	F Statistic	Significance Level	F Statistic	Significance Level
Group	.21	.648	.24	.627	1.92	.168	.00	.944
Risk Level	4.31	.015*	1.55	.215	6.33	.000*	3.35	.037*
Time	1.20	.003*	10.04	.002*	16.63	.000*	4.97	.027*
Two-Way Interaction								
Group x Risk	1.00	.372	1.40	.251	.18	.909	.30	.739
Group x Time	.42	.515	3.76	.054	.04	.838	1.65	.201
Risk x Time	1.07	.346	.64	.527	.59	.625	.52	.593
Three-Way Interaction								
Group x Risk x Time	1.57	.212	1.80	.169	1.02	.386	.99	.373

* $p<.05$

The ANOVA results include statistically significant Time main effects for lifetime prevalence, age of onset ($p<.002$), and number of partners in both lifetime ($p<.001$) and the past three months ($p<.027$). The absence of Group by Time interactions (with the possible exception of "age of onset," marginally significant at $p<.054$) indicates that the significant increases are true for both groups. Risk level is also a highly significant main effect for lifetime prevalence ($p<.015$), and number of sexual partners

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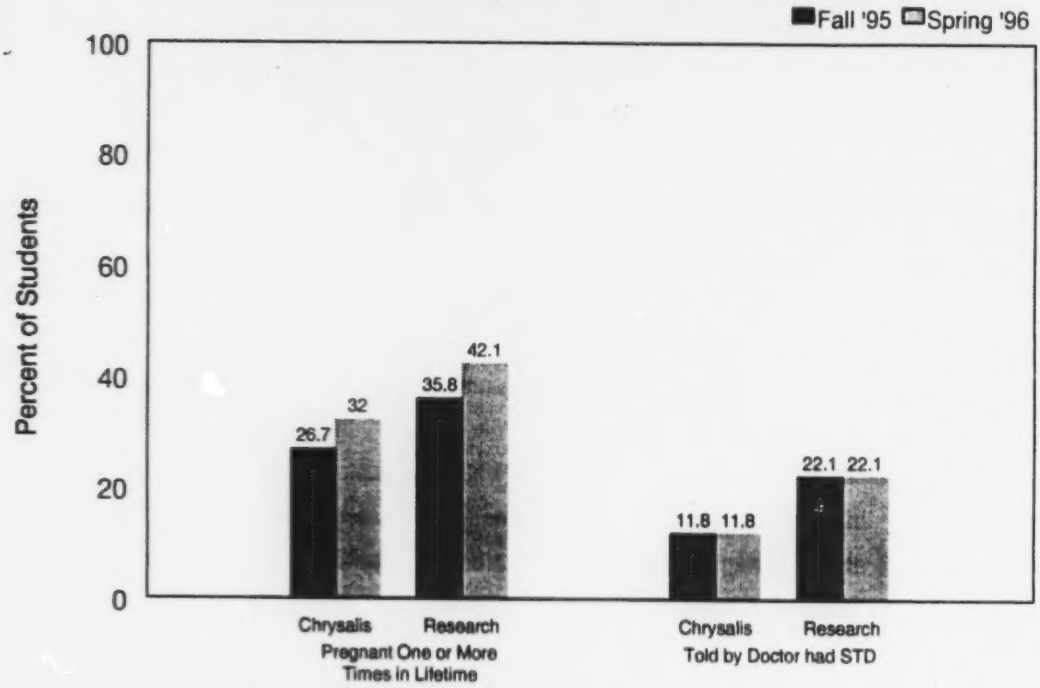
in lifetime ($p<.001$) and in the past three months ($p<.027$). This main effect evidences the well-established relationship that indicates students at higher risk levels have been and continue to be more sexually active.

It is somewhat curious that there are such strong fall/spring differences in the two "lifetime prevalence" indicators. Interpreted literally, this means that these increases (a 5 percent increase in the percentages of students who had ever had sexual intercourse, and a 10 percent increase in the number who had more than four partners) occurred for both groups during this school year. As noted earlier, however, this may represent a greater willingness to disclose this information with another year's development.

As with alcohol and marijuana use, the level of Chrysalis program participation is significantly related to the prevalence of sexual activity in the past three months. Significantly fewer of those young women who participated in more support groups during the year were sexually active in the three months prior to the spring survey. Again, the message to program staff is clear.

The prevalence rates of selected consequences of sexual activity, as reflected in pregnancy and sexually transmitted diseases (STDs), are displayed in Exhibit 4.12a, followed by results from the repeated measures ANOVA in Exhibit 4.12b.

Exhibit 4.12a. **Consequences of Sexual Activity**
Year 2 Fall and Spring Results for Chrysalis and Research Groups



Based on students taking both Fall and Spring surveys and (Chrysalis) participating in at least 1/3 of the program activities (Chrysalis N=76; Research N=96)

Exhibit 4.12b
Repeated Measures ANOVA for Consequences of Sexual Activity

	Pregnant During Lifetime		Told by Doctor Had STD	
Main Effects	**F Statistic**	**Significance Level**	**F Statistic**	**Significance Level**
Group	3.62	.059	2.34	.128
Risk Level	11.43	.000*	2.32	.078
Time	1.86	.174	.16	.692
Two-Way Interaction				
Group x Risk	.06	.983	1.34	.263
Group x Time	.84	.360	1.09	.298
Risk x Time	.70	.554	.49	.692
Three-Way Interaction				
Group x Risk x Time	1.69	.172	1.14	.333

* $p<.05$

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The percentage of project students who reported having been pregnant at least once in their lifetime increased at about the same rate for both groups from fall to spring. This rate was higher for Research students than Chrysalis students. In the spring, about three out of ten Chrysalis students and four out of ten Research students claimed having been pregnant at least once. These rates are four to five times those of their high school female peers across the nation (CDC, 1995).

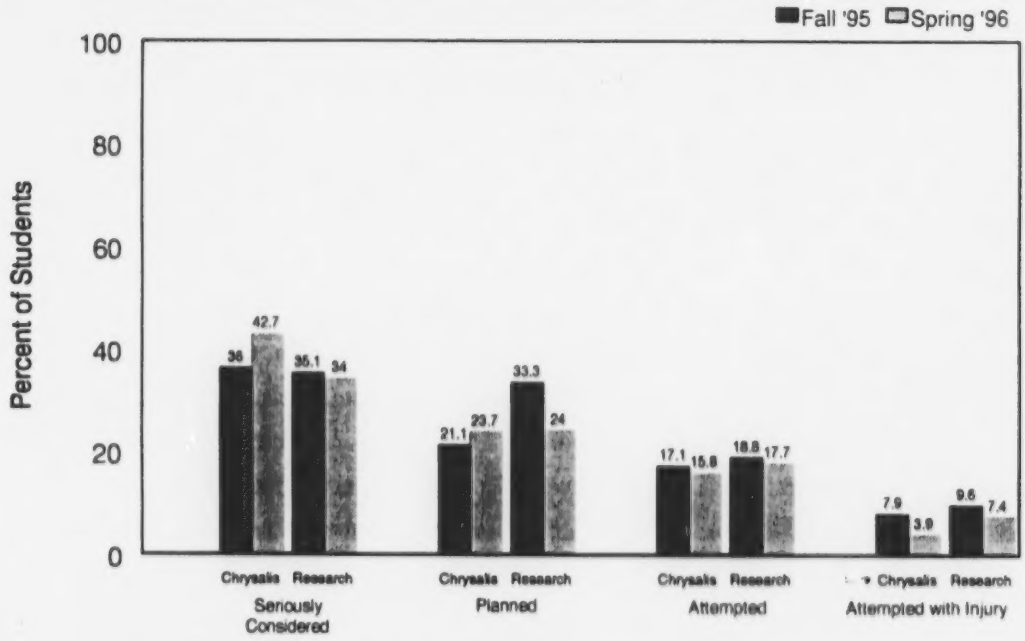
The differences between the two groups at both points in time were marginally statistically significant ($p<.054$), according to results from the repeated measures ANOVA illustrated in Exhibit 4.12b. The Risk Level main effect is highly significant ($p<.001$), meaning rates of pregnancy differ by risk level — students with more risk factors were more likely to have been pregnant than students with fewer. This difference is similar for both groups, however, as there is no Group x Risk interaction.

Almost twice as many Research students compared to Chrysalis students reported having been told by a doctor they had a sexually transmitted disease. The percentages for both groups remained exactly the same at both data points, and none of the difference between the groups proved to be statistically significant from the repeated measures ANOVA.

Suicide Ideation and Attempts

Mental health concerns are paramount to the Chrysalis program. As shown in Exhibit 4.13a, a high percentage of project students reported suicide ideation and attempts. By the end of the school year, more than four out of ten Chrysalis students reported that they considered suicide at some time during the past year. About one out of three Research students reported this to be true for them. These numbers are high for both groups, but there is not a statistically significant difference between the groups, as determined from the repeated measures analysis of variance results displayed in Exhibit 4.13b.

Exhibit 4.13a
Prevalence of Suicidal Behavior
Year 2 Fall and Spring Results for Chrysalis and Research Groups



Based on students taking both Fall and Spring surveys and (Chrysalis) participating in at least 1/3 of the program activities (Chrysalis N=76; Research N=96)

Exhibit 4.13b
Repeated Measures ANOVA for Suicidal Behavior in Past Year

	Seriously Considered		Planned		Attempted		Attempted with Injury	
Main Effects	**F Statistic**	**Significance Level**	**F Statistic**	**Significance Level**	**F Statistic**	**Significance Level**	**F Statistic**	**Significance Level**
Group	.09	.759	.67	.413	.45	.506	3.30	.071
Risk Level	3.87	.023*	3.08	.049*	2.69	.071	.09	.911
Time	.09	.766	1.14	.287	1.94	.111	.83	.362
Two-Way Interaction								
Group x Risk	.03	.967	.22	.804	1.67	.197	.06	.937
Group x Time	1.37	.244	2.64	.106	.54	.464	.07	.786
Risk x Time	.85	.427	2.24	.110	.39	.677	.41	.662
Three-Way Interaction								
Group x Risk x Time	.36	.696	.58	.563	.30	.741	.60	.547

* $p<.05$

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The proportion of Chrysalis students who reported having planned to commit suicide during the past year essentially was the same between the fall and spring. The percentage of Research students stating this was less in the spring (24.0 percent) than in the fall (33.3 percent). This decrease was not large enough to create a statistically significant difference between the groups (Exhibit 4.13b).

The percentage of project students who claimed to have attempted suicide at some point during the past twelve months is essentially the same for both groups, and remained about the same throughout the school year. Again, results from the repeated measures ANOVA indicate the rates of attempted suicide for both Chrysalis students and Research students was essentially the same.

Chrysalis students who reported attempting suicide in the past year which resulted in an injury dropped from 7.9 percent in the fall to 3.9 percent in the spring. This indicator also dropped for Research students, but by a lesser amount: 9.6 percent to 7.4 percent. Because the actual prevalence rates for this indicator are so small, the differences between the groups are not statistically significant (see Exhibit 4.13b), but because of the seriousness of this indicator, program staff justifiably feel the reduction in suicide with injury exhibited by Chrysalis students is important.

Among all ANOVA effects, only the Risk Level main effect was statistically significant and indicated that students at higher levels of risk were more likely to engage in suicide ideation and attempts. Interestingly, this effect grows progressively less significant as the questions go from suicide ideation ("seriously considered," $p<.023$) to serious attempts ("attempted with injury," $p<.911$). Apparently, serious suicidal behavior is a more complex phenomenon than current risk factor theory can predict.

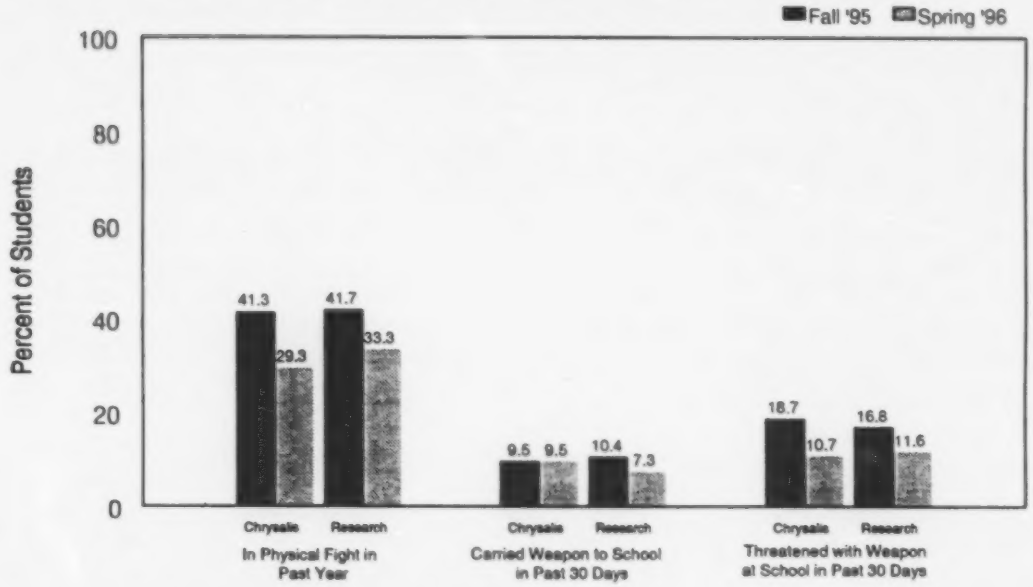
Grade level differences show a similar pattern. While older students are more likely to report considering suicide ($p<.037$), differences in planning and attempting are marginal ($p<.079$ and $p<.086$, respectively) and in attempts with injury non-existent ($p<.948$). Again, describing this four to ten percent of students who have actually attempted suicide and suffered an injury in their attempt is not a simple task. Further analysis of the wealth of data collected in this study, both quantitative and qualitative, should be done to better understand this serious phenomenon.

Violent Behavior

Exhibit 4.14a displays the prevalence of physical fighting and weapon carrying by Chrysalis and Research girls in Year Two. Physical fighting among project students declined during the school

year, especially among Chrysalis students. About 41 percent of both Chrysalis and Research students in the fall said they had been in a physical fight during the past year. In the spring survey, this number dropped to 29.3 percent for Chrysalis students and 33.3 percent for Research students. Since the rate dropped fairly consistently between the groups, there is a statistically significant Time main effect, but not a Group x Time interaction on this indicator (see Exhibit 4.14b). It is also noteworthy that Risk Level is not a significant effect here, indicating that students of varying levels of risk are equally likely to have been in a physical fight.

Exhibit 4.14a
Prevalence of Fighting and Weapon Carrying
Year 2 Fall and Spring Results for Chrysalis and Research Groups



Based on students taking both Fall and Spring surveys and (Chrysalis) participating in at least 1/3 of the program activities (Chrysalis N=76; Research N=96)

Chrysalis students reported no change in whether or not they carried a weapon to school in the past 30 days between fall and spring. The percentage was 9.5 in the fall and in the spring for Chrysalis students. This percentage slightly decreased for Research students (from 10.4% in the fall to 7.3% in the spring), but this difference was not significant (see Exhibit 4.14b).

The pattern of decreasing violent behavior shown in Exhibit 4.14a continues with the third indicator, "threatened with a weapon at school during the past thirty days." The percentage of Chrysalis

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students who reported being in such a situation decreased by eight percent between the fall and spring data points, and the number of Research students who reported "yes" to this question also was reduced by five percent. Again, the pattern of these indicators is positive (violent behavior and situations is decreasing), but differences are not yet large enough to be statistically significant.

Exhibit 4.14b
Repeated Measures ANOVA for Prevalence of Fighting and Weapon Carrying

	In Physical Fight in Past Year		Carried Weapon to School in Past 30 Days		Threatened with Weapon at School in Past 30 Days	
Main Effects	F Statistic	Significance Level	F Statistic	Significance Level	F Statistic	Significance Level
Group	.79	.375	.03	.854	.00	.972
Risk Level	2.17	.117	1.58	.208	1.02	.363
Time	6.09	.015*	.93	.336	.05	.823
Two-Way Interaction						
Group x Risk	1.42	.244	.32	.726	1.07	.346
Group x Time	.28	.753	.71	.400	.19	.663
Risk x Time	.03	.869	.34	.711	.45	.639
Three-Way Interaction						
Group x Risk x Time	.28	.753	.54	.581	2.04	.133

* $p<.05$

Attitudes, Family and Peer Health Risk Behaviors

In addition to self reports of their own behaviors, students were asked a series of questions about the extent to which their friends engaged in these behaviors, their perceptions of their parents' attitudes toward these behaviors, their own attitudes toward these behaviors, and their abilities to not engage in these behaviors if they did not want to (i.e., resisting pressure to do so).

These data, in the form of additive scales of several items on the Risk and Resiliency survey, were analyzed in much the same manner as the behaviors themselves reported in the preceding pages of this chapter. In these analyses, two major findings emerged. First, there were no significant differences relating to Group or Time, but there were consistent differences relating to Risk Level. That is, Chrysalis and Research groups did not differ, nor did these attitudes or perceptions change over time. But students at higher levels of risk consistently reported having more friends that

engaged in these behaviors, perceived their parents' attitudes to be more permissive of these behaviors, and exhibited more permissive attitudes toward these behaviors themselves.

The second noteworthy finding had to do with students' self-reported abilities to refuse to engage in these behaviors if they did not wish to. While there were no significant differences between Chrysalis and Research girls in general, the Chrysalis students who received higher dosage levels of the overall program reported significantly stronger "refusal skills" than those who participated at lower levels.

Protective Factors

The *Risk and Resiliency Index* includes 13 subscales assessing protective factors in four areas: Personal Competence, Social Competence, Social Bonding, and Caring/Support. Repeated Measures analyses of variance were conducted on these protective factors as described for the previous health risk behaviors section. The repeated measures ANOVA design tests for statistically significant differences in three main areas: over time (between the fall and spring assessments), between Chrysalis and Research students, and among grade and risk levels. The design also tests for two-way and three-way interactions among these different areas. For example, if the two-way interaction between Group and Time is significant, then Chrysalis students have changed differently over time as compared to Research students for the protective factor being tested.

Results of the ANOVAs are presented below. "F" statistics from the ANOVAs are provided to give some indication of the magnitude of group differences in relation to within group variability. The determination of whether these differences are large enough to be considered statistically significant and warrant further interpretation is given by the "significance level" in the exhibits. These values indicate the probability that the observed group differences are within the realm of chance variation, rather than representing true group differences. When these significance levels are as low as .05 or .01, researchers typically conclude that the group differences indeed are authentic and merit interpretation.

Repeated Measures ANOVA results for the Group x Grade Level x Time design are presented first in Exhibits 4.15 to 4.18 in order to feature any developmental differences (found in other studies using these scales) across the grades in these psychosocial attributes. The results from the Group x Risk Level x Time design follow the Grade Level presentation in Exhibits 4.19 to 4.22.

In order to best determine the impact of the program, Chrysalis students included in the following analysis are only those who participated in at least one-third of all program activities. As in the previous analyses of health risk behaviors, it was felt by program staff that this represented a minimally sufficient "dosage" level for any student to have realized the intended benefits of the program. Also, these data represent students who responded to both the fall and spring surveys.

Exhibit 4.15
Repeated Measures ANOVA by Grade Level
Protective Factors: Personal Competence

	Personal Competence Composite Scale		Subscale: Self-Concept		Subscale: Self-Control		Subscale: Positive Outlook		Subscale: Self-Efficacy	
	F Statistic	Signif-icance Level	F Statistic	Signif-icance Level	F Statistic	Signif-icance Level	F Statistic	Signif-icance Level	F Statistic	Signif-icance Level
Main Effects										
Group	1.35	.247	3.46	.018*	.02	.882	.16	.688	.26	.611
Grade	4.02	.009*	.03	.857	.78	.508	.78	.508	3.00	.029*
Time	4.33	.039*	1.95	.164	1.53	.219	1.53	.219	.54	.463
Two-Way Interaction										
Group x Grade	.51	.674	.80	.496	.40	.757	.40	.757	.39	.757
Group x Time	.92	.340	2.27	.134	.15	.696	.15	.696	2.40	.123
Grade x Time	.77	.513	.25	.863	.43	.729	.43	.729	2.21	.089
Three-Way Interaction										
Group x Grade x Time	.15	.929	1.08	.358	.98	.409	.98	.409	.94	.422

* p<.05

The Personal Competence composite scale — composed of Self-Concept, Self-Control, Positive Outlook, and Self-Efficacy subscales — evidences significant differences across Grade Levels (p<.009) and Time (p<.039). Both of these trends represent essentially developmental differences in these young women and are characteristic of both Chrysalis and Research groups. As they progress through their adolescent years (and even across a single school year), they tend to grow in their sense of personal competence. Among the subscales, Self-Efficacy also evidences a significant Grade Level main effect) p<.029).

One Group-related effect is also significant, the Self-Concept subscale (p<.018). Across both time periods, Chrysalis participants report higher self-esteem than do their Research group counterparts. Ideally, for program purposes, this would have shown itself as a Group x Time interaction, indicating that the two groups started at the same level of Self-Concept, but the program participants gained more during the year. There is suggestive evidence that this may be occurring (Group x Time interaction significance level is p<.134), but the effect is not strong enough to warrant serious interpretation.

Exhibit 4.16
Repeated Measures ANOVA by Grade Level
Protective Factors: Social Competence

	Social Competence Composite Scale		Subscale: Assertiveness		Subscale: Confidence		Subscale: Cooperation	
	F Statistic	Significance Level	F Statistic	Significance Level	F Statistic	Significance Level	F Statistic	Significance Level
Main Effects								
Group	.00	.947	.00	.973	.60	.441	.09	.759
Grade	1.28	.282	5.30	.002*	1.32	.260	.46	.708
Time	2.63	.107	4.64	.033*	2.02	.157	1.03	.312
Two-Way Interaction								
Group x Grade	.35	.792	.54	.658	.06	.978	.77	.513
Group x Time	1.27	.261	.00	.967	1.33	.250	1.33	.251
Grade x Time	.17	.918	.29	.830	.38	.770	1.63	.185
Three-Way Interaction								
Group x Grade x Time	.32	.811	.31	.821	.36	.782	.37	.374

* p<.05

In the Social Competence area, the overall composite scale shows no significant difference, although the Time main effect (p<.07), reflecting fall to spring differences for both Groups and all Grades approaches statistical significance. Among the subscales, Assertiveness shows the same kinds of developmental trends as were seen in the Personal Competence area. As these young women get older, they are becoming more assertive — again, a highly desirable outcome, but one not found differentially for Chrysalis participants in relation to Research group participants.

Exhibit 4.17
Repeated Measures ANOVA by Grade Level
Protective Factors: Social Bonding

	Social Bonding Composite Scale		Subscale: School		Subscale: Family	
	F Statistic	Significance Level	F Statistic	Significance Level	F Statistic	Significance Level
Main Effects						
Group	1.94	.166	.00	.992	1.70	.182
Grade	.91	.438	.25	.863	1.79	.153
Time	.559	.34	.72	.398	4.57	.034*
Two-Way Interaction						
Group x Grade	.35	.792	.79	.503	.50	.681
Group x Time	1.27	.261	.01	.304	1.95	.165
Grade x Time	.17	.918	.29	.835	.37	.772
Three-Way Interaction						
Group x Grade x Time	.32	.811	.75	.525	1.10	.352

* $p<.05$

Two aspects of positive Social Bonding are part of the Risk and Resiliency scale: bonding to School and bonding to Family. The Chrysalis program has had no significant effect on these bonding processes, but again, there is some evidence that there are developmental differences operating here. The significant Time main effect on Family Bonding indicates that both groups are feeling more bonded to their families over the course of the school year. Since the change is not so significant across Grade Levels ($p<.153$), it is less likely to indicate a developmental process through adolescence, but rather one due to the events and progress made in a single school year.

In Exhibit 4.18, the Repeated Measures ANOVA for Protective Factors of Support/Guidance, none of the effects — developmental or Group-related — yield any significant differences.

Exhibit 4.18
Repeated Measures ANOVA by Grade Level
Protective Factors: Support/Guidance

	Support Composite Scale		Subscale: Nurturance		Subscale: Guidance	
	F Statistic	Significance Level	F Statistic	Significance Level	F Statistic	Significance Level
Main Effects						
Group	.19	.661	.20	.590	1.62	.205
Grade	2.79	.064	1.20	.313	1.55	.204
Time	1.24	.266	1.42	.235	.249	.116
Two-Way Interaction						
Group x Grade	.29	.752	1.07	.365	1.04	.376
Group x Time	.31	.577	.33	.569	.07	.788
Grade x Time	1.30	.276	1.19	.316	.10	.962
Three-Way Interaction						
Group x Grade x Time	.00	1.00	.16	.923	.88	.453

* p<.05

As with the health risk behaviors, a similar Repeated Measures ANOVA design was conducted replacing Grade Level with Risk Level. During intake, project students were asked about whether or not they had experienced a series of risk factors. For the analysis, students were categorized into one of three levels depending on their number of risk factors: low, medium, or high risk level. The following exhibits illustrate the results of how the protective factors are associated with Risk level and Time for Chrysalis and Research students. Again, only students who responded to both surveys, and out of the Chrysalis students, only the "active" ones (those who met the one-third participation criterion) are included in the analyses.

In general, the results are similar to those reported in the Grade Level design, in that no Group-related effects are shown to be significant. Several of the protective factor subscales — particularly in the Social Competence area — are found to be significantly different across levels of risk (i.e., a Risk Level main effect). These are always in the theoretically established direction — higher levels of risk among these students are associated with lower levels of protective factors. As shown in the following four tables, students at high risk levels have a lower self-concept, are less assertive, less self-confident, less cooperative, feel less bonded to family, and feel less guidance from supportive adults than do their lower risk peers. Correlational analyses (not shown here) indicated that these

relationships were stronger among Research group students than Chrysalis students, suggesting that the project may be interrupting the somewhat natural, inverse relation between risk and protection — a highly desirable outcome. In the context of the current repeated measures ANOVAs, this would have evidenced itself in significant Group x Risk interactions (showing that differences in protective factors across Risk Level groupings are not the same for Chrysalis and Research groups), but only one of these even approaches marginal levels of statistical significance (e.g., Family Bonding at p<.104). The discrepancy in the correlational and ANOVA results is likely due to the more precise measurement of risk in the former (the specific number of risk factors present) as opposed to a more general grouping (high, medium, low) in the ANOVA.

Exhibit 4.19
Repeated Measures ANOVA by Risk Level
Protective Factors: Personal Competence

	Personal Competence Composite Scale		Subscale: Self-Concept		Subscale: Self-Control		Subscale: Positive Outlook		Subscale: Self-Efficacy	
	F Statistic	Signif-icance Level	F Statistic	Signif-icance Level	F Statistic	Signif-icance Level	F Statistic	Signif-icance Level	F Statistic	Signif-icance Level
Main Effects										
Group	.90	.344	.03	.857	.00	.963	.41	.523	1.63	.204
Risk Level	5.47	.005*	3.46	.018*	.72	.489	.13	.881	.57	.564
Time	3.25	.071*	.95	.164	5.52	.021	8.89	.004*	1.38	.24
Two-Way Interaction										
Group x Risk	.65	.523	.80	.496	.40	.675	1.04	.359	.06	.938
Group x Time	1.19	.277	2.27	.134	3.05	.085	2.09	.153	3.35	.069
Risk x Time	1.23	.296	.25	.863	.05	.950	.96	.387	.25	.779
Three-Way Interaction										
Group x Risk x Time	.04	.962	1.08	.358	.37	.690	.17	.842	.17	.844

* p<.05

Exhibit 4.20
Repeated Measures ANOVA by Risk Level
Protective Factors: Social Competence

	Social Competence Composite Scale		Subscale: Assertiveness		Subscale: Confidence		Subscale: Cooperation	
	F Statistic	Significance Level	F Statistic	Significance Level	F Statistic	Significance Level	F Statistic	Significance Level
Main Effects								
Group	.13	.720	.42	.520	.76	.385	.46	.497
Risk Level	5.85	.004*	5.88	.003*	3.81	.024*	2.99	.053*
Time	4.03	.047*	11.43	.001*	3.05	.082	.16	.687
Two-Way Interaction								
Group x Risk	.36	.695	.55	.579	.43	.649	.75	.472
Group x Time	.58	.447	.17	.685	.95	.331	.33	.566
Risk x Time	.16	.852	.94	.393	.36	.700	.88	.415
Three-Way Interaction								
Group x Risk x Time	2.18	.117	2.03	.135	1.10	.334	3.96	.021

* p<.05

Exhibit 4.21
Repeated Measures ANOVA by Risk Level
Protective Factors: Social Bonding

	Social Bonding Composite Scale		Subscale: School		Subscale: Family	
	F Statistic	Significance Level	F Statistic	Significance Level	F Statistic	Significance Level
Main Effects						
Group	2.97	.087	.00	.959	2.92	.089
Risk Level	1.70	.187	.23	.795	3.73	.026*
Time	.38	.539	.84	.360	4.27	.040*
Two-Way Interaction						
Group x Risk	.73	.483	.61	.544	2.29	.104
Group x Time	3.07	.082	.00	.947	.85	.357
Risk x Time	.13	.876	.16	.851	.10	.902
Three-Way Interaction						
Group x Risk x Time	.29	.750	.71	.492	.59	.558

* p<.05

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Exhibit 4.22
Repeated Measures ANOVA by Risk Level
Protective Factors: Support/Guidance

	Support/Guidance Composite Scale		Subscale: Nurturance		Subscale: Guidance	
	F Statistic	Significance Level	F Statistic	Significance Level	F Statistic	Significance Level
Main Effects						
Group	.19	.857	.10	.749	1.55	.216
Risk Level	3.46	.018*	1.49	.229	4.00	.020*
Time	1.95	.164	.55	.458	2.38	.125
Two-Way Interaction						
Group x Risk	.80	.496	.55	.578	.08	.926
Group x Time	2.27	.134	.52	.472	.00	.979
Risk x Time	.25	.863	.13	.875	1.57	.211
Three-Way Interaction						
Group x Grade x Time	1.08	.358	.27	.766	.45	.638

* $p<.05$

In short, although there is extensive literature and philosophical value that enhancing these protective factors is a key step in reducing the negative health behaviors under study here, these attributes are very difficult to change — particularly in such a population as Chrysalis is dealing with. Program staff are among the most cognizant of this difficulty, asserting that it takes years to begin to ameliorate the effects of abuse in the lives of these young women. Research summarized in establishing the framework for this project (Laws & Gabriel, 1995; Benard, 1991) certainly supports their assertion.

Intercorrelations

Many of the significant interrelationships between program participation and health risk behaviors among Chrysalis women have been reported in the context of the previous discussion. The full set of correlational analysis is presented in this section.

Health Risk Behaviors

Responses from Chrysalis students on their health risk behaviors in the spring 1996 survey were correlated with the different program activities in which they participated to assess how and which

program activities impacted these behaviors. Both the program activities and the health risk behaviors were coded to increase with participation and use/involvement, so that a negative correlation means the more participation in the program activity, the lower the prevalence of that health risk behavior. For example, a negative correlation between support group and alcohol use in the past 30 days would mean the more support groups a Chrysalis student attended, the lower their reported use of alcohol in the past month. Exhibit 4.23a presents all correlations larger than .20; this level of correlation is close to that required for conventional .05 levels of statistical significance. Because sample size varies somewhat for each individual correlation, statistical significance criteria will as well. The authors determined that using a consistent threshold for correlational interpretation would be useful.

Open sessions, composed of the HIV/AIDS Education and Media Literacy components, are the program activities that impacted Chrysalis students the most, particularly in the area of sexual activity. From this analysis, it is difficult to determine whether or not it was the program activities that encouraged students to lower their involvement in these behaviors or if students who already were less involved in these behaviors were the ones who attended these particular sessions. There is a positive significant correlation between case management hours and attempted suicide and also between case management sessions and carrying a weapon to school. It is likely these are due to case managers spending more time with students who were the most troubled.

A similar correlational analysis was conducted to examine the association between level of risk and the health risk behaviors, as well as dosage level and health risk behaviors. Correlations greater than .20 for the health risk behaviors and risk level and dosage levels are shown in Exhibit 4.23b.

Exhibit 4.23a

Intercorrelations Among Health Risk Behaviors and Program Activities

Risk Behaviors		Support Group	Open Sessions	Challenge Course	Girls Empowerment	Year End Celebration	HIV	Media	Case Mgmt. Hours	Case Mgmt. Sessions
Alcohol Use	Past 30 Days	–	–	–	–	–	–	–	–	–
	No. of Drinks When Drank	–	–	–	–	–	–	–	–	.22
Cigarette Use	Past 30 Days	–	0.20	–	–	–	–	–	–	–
	No. Smoked When Smoked	-.27*	-.30*	–	–	–	-.29*	-.21	–	.22
Marijuana Use	Past 30 Days	-.22	–	–	–	–	–	–	–	–
	Amount Used When Used	-.23	–	–	–	–	–	–	–	–
Sexual Activity and Consequences	Ever Had Sexual Intercourse	-.24	-.23	-.24	–	–	–	–	–	–
	Age Onset	–	–	-.30*	–	–	–	–	–	–
	No. Of Partners in Lifetime	-.39*	-.32*	–	-.23	–	-.32*	-.20	–	–
	No. Of Partners Past 3 Months	-.25	–	–	–	–	–	–	–	–
	Ever Been Pregnant	-.31*	-.38**	-.22	–	–	-.45**	–	–	–
	Ever Told by Doctor had STD	-.25	-.27*	–	–	–	-.27*	-.20	–	–
Violence	In Physical Fight in Past 30 Days	–	–	–	–	–	–	–	–	–
	Carried Weapon	–	–	–	–	–	–	–	.21	.34**
	Been Threatened	–	–	–	.22	–	–	–	–	–
Suicide Ideation and Attempts	Considered Suicide	–	–	–	–	–	–	–	–	–
	Planned Suicide	–	–	–	–	–	–	–	–	.24
	Attempted Suicide	–	–	–	–	–	–	–	.24	.31*
	Attempted Suicide with Injury	–	–	–	.27	–	–	–	–	–

Note: * p<.01, ** p<.001, and other correlations larger than .20 are approaching conventional .05 levels of statistical significance

Exhibit 4.23b
Intercorrelations Among Health Risk Behaviors and Risk Level & Dosage Level

Health Risk Behaviors		Risk Level	Dosage Level
Alcohol Use	Past 30 Days	–	–
	Number of Drinks When Drank	–	–
Cigarette Use	Past 30 Days	–	–
	Number Smoked When Smoked	–	-.28
Marijuana Use	Past 30 Days	.29	–
	Amount Used When Used	.20	–
Sexual Activity and Consequences	Ever Had Sexual Intercourse	–	-.24
	Age Onset	–	–
	Number Of Partners in Lifetime	–	-.36**
	Number Of Partners Past 3 Months	–	–
	Ever Been Pregnant	–	-.31*
	Ever Told by Doctor had STD	–	-.22
Violence	In Physical Fight in Past 30 Days	–	–
	Carried Weapon	–	–
	Been Threatened	–	–
Suicide Ideation and Attempts	Thought of Suicide	–	–
	Planned Suicide	.22	–
	Attempted Suicide	–	–
	Attempted Suicide with Injury	.29	–

Note: * p<.01, ** p<.001, and other correlations larger than .20 are approaching .05 levels of significance

Interestingly, risk level is negatively correlated with lifetime prevalence of sexual activity and ever having a sexually transmitted disease. Also, out of the Chrysalis students who said they smoked in the past month, those with a higher risk level smoked fewer cigarettes when they smoked. Dosage level was negatively correlated with number of sexual partners in lifetime and having ever been pregnant.

Protective Factors

Program activities were also correlated with the protective factors to examine the relationship between them. As shown in Exhibit 4.24, none of the associations were statistically significant. The relationships between program activities and risk level and dosage level are also presented in this exhibit; there were no statistically significant correlations between risk or dosage level and the program activities.

Exhibit 4.24
Intercorrelations Among Protective Factors and Program Activities & Among Risk Level and Dosage Level

	Support Group	Open Session	Challenge Course	Girls Emprmt	Yr. End Celebrtn	HIV	Media	Case Mgmt. Hours	Case Mgmt. Sessns	Risk Level	Dosage Level
Social Bonding	–	–	–	–	–	–	–	–	–	–	–
School	–	–	–	–	–	–	–	–	–	–	–
Family	–	–	–	–	–	–	–	–	–	–	–
Personal Competence	–	–	–	–	–	–	–	–	–	–	–
Self-Concept	–	–	–	–	–	–	–	–	–	–	–
Self-Control	–	–	–	–	–	–	–	–	–	–	–
Positive Outlook	–	–	–	–	–	–	–	–	–	–	–
Self-Efficacy	–	-.26	–	–	–	–	–	–	–	–	–
Social Competence	–	–	–	–	–	–	–	–	–	–	–
Assertiveness	–	–	–	–	–	–	–	–	–	–	–
Confidence	–	–	–	–	–	–	–	–	–	–	–
Cooperation	–	–	-.20	–	–	–	–	–	–	–	–
Caring/ Support	–	–	–	–	–	–	–	–	–	–	–
Nuturance	–	–	–	–	–	–	–	–	–	–	–
Guidance	–	–	–	–	–	–	–	–	–	–	–

Note: The correlations larger than .20 are approaching conventional .05 levels of statistical significance.

Student Achievement

Another aspect of the study was to investigate students' academic achievement while involved in the Chrysalis Project. Although the project is not designed to directly impact basic skills, it is important to examine the effects of program participation on student learning.

Portland Public Schools maintains a Student Master Database which includes comprehensive information on each student enrolled in the district. Some of these data were particularly relevant to the Chrysalis program and were thus extracted for inclusion in this evaluation. Specifically, three indicators were used: 1) Graduation Standards Test (GST) scores in reading and mathematics, 2) school attendance as total days absent for Year One and Year Two; and 3) grade point average for these two data points.

The Portland Graduation Standards Tests (GST) were used to measure student achievement in reading and mathematics. The GST tests are administered each spring to all district high school students who have not met the minimum graduation standard in reading (RIT score of 212) and mathematics (RIT score of 222).

Exhibit 4.25 displays the means for the student achievement variables. Chrysalis and Research students do not differ significantly in their school performances. Both groups maintained a "C" average during Year Two. Chrysalis students raised their grade point averages from Year One to Year Two (1.52 to 2.19) while Research students g.p.a. made only a modest gain from 1.9 to 2.0.

School attendance data also show a positive trend among Chrysalis participants as compared to the Research group. The mean number of days absent among Chrysalis young women was reduced from 36.1 days absent in Year One to 26.7 days in Year Two. Among Research youth attendance was unchanged; 27.4 days absent in 1995 and 26.3 days absent in 1996.

Analysis of achievement scores and attendance data indicates that participation in Project Chrysalis positively affects student learning in the basic skills and improves school attendance. In fact, the significant difference noted indicated that reading and mathematics achievement improved with higher levels of participation in the program.

The percent of project students who passed the District's Graduation Standards Test (GST) in

Reading decreased from 1995 to 1996. Students in both the Chrysalis and Research groups were more academically needy in Year Two. Fewer Chrysalis students (84.1%) had passed the Reading GST test in 1996 than the previous year (94.3%). The percentages of Chrysalis and Research students meeting the graduation standard in reading and mathematics are equivalent. Among Research students, 68.5% have passed the Mathematics test (slightly lower percentage the previous year). The percent of Chrysalis students who passed the Mathematics test was essentially unchanged from 66.5% in 1995 to 67.3% in 1996. The large discrepancy between the reading and math scores among project students, not seen among the districtwide female population, leads us to ask if more high risk girls have bought into the gender role stereotype of women as better reading/verbal achievers and lower in mathematics achievement.

Exhibit 4.25
Comparison of Academic Achievement, Year Two
Results for Chrysalis and Research Groups

Achievement Variable	Year One	Year Two
Mean Grade Point Average		
Chrysalis	1.521	2.186
Research	1.903	2.004
Mean Annual Days Absent		
Chrysalis	36.1	26.7
Research	27.4	26.3
Percentage Passing Graduation Standards Test — Reading		
Chrysalis	93.3%	84.1%
Research	85.9%	84.9%
Percent Passing Graduation Standards Test — Mathematics		
Chrysalis	66.5%	67.3%
Research	72.1%	68.5%

Exhibit 4.26 compares the means on academic indicators from the District Database for Chrysalis Program students by dosage level. These indicators provide evidence of significant differences in academic performance among Chrysalis students when dosage level is considered. High dosage students scored the highest on all academic indicators. In terms of achievement test scores, attendance, and grade point average, students in the high dosage group are significantly higher than students in both low and medium dosage levels. The medium dosage group has higher attendance

and math achievement than the low dosage group. These results show a trend towards significant improvements in academic progress Chrysalis students with high levels of program participation.

Exhibit 4.26
Comparative Means on Academic Indicators by Dosage Level, Year Two
Spring 1996 Results for Program Group Only

Chrysalis Program Dosage Levels	Reading GST	Math GST	Days Absent (Annual)	G.P.A. (Annual)
Low Dosage (n=37)	224.5	226.5	31.3	1.1
Medium Dosage (n=29)	223.5	224.5	26.6	1.5
High Dosage (n=84)	227.0	231.4	23.5	2.0

Process Evaluation

Challenge Course

During Year Two, the Chrysalis evaluation team added two instruments to assess change in other program components — the Challenge Course and Girls Empowerment sessions. RMC Research Corporation developed a pre/post survey for the Challenge Course to assess locus of control. The Girls Empowerment pre/post survey was revised to align more directly with the training curriculum.

The Challenge Course locus of control instrument included 10 items assessing protective factors in four subscale areas: Personal Efficacy, Interpersonal Control, Social Competence/Confidence, and Social Competence/Cooperation. The mean scores on these subscales prior to attending the Challenge Course were compared with mean scores after the training. The analysis assessed whether there were any significant differences on any of the protective factors as an outcome of the course. The comparison used descriptive statistics to give an indication of changes which may be linked to the Challenge Course. Results of the analysis are presented in Exhibit 4.27. While none of the change comparisons approach traditionally accepted levels of significance, the results do indicate minimal levels of positive change on each of the protective factor subscales. The Interpersonal Control subscale yielded the most change (.25), along with the Social Competence/Confidence subscale at .23. The instrument and an item analysis are in Appendix F.

Exhibit 4.27
Group Means and Standard Deviations on Challenge Course Survey, Year Two
Locus of Control with Chrysalis Program Group Only

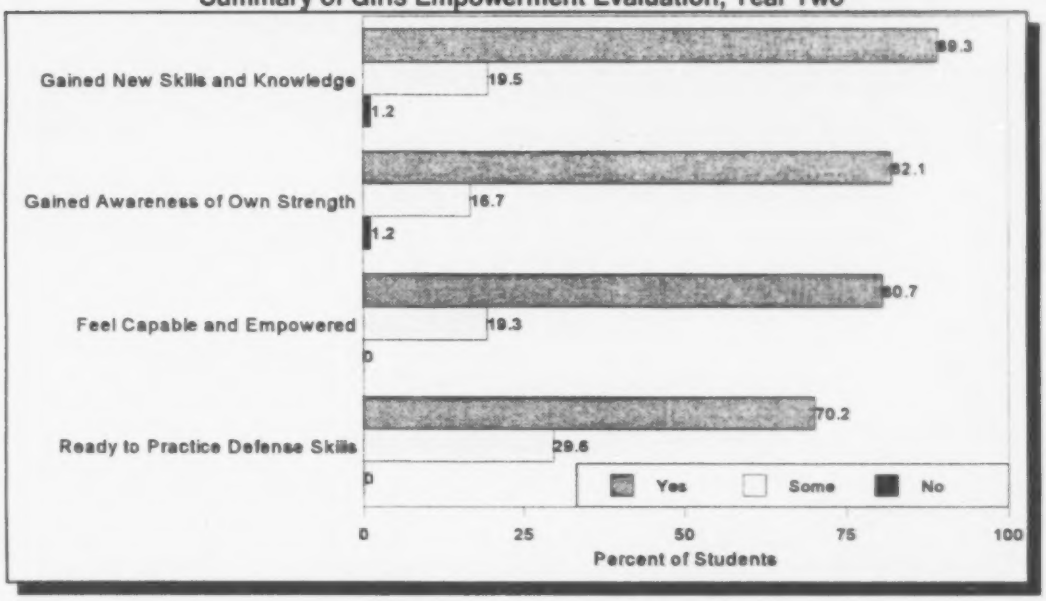
Protective Factors	Summary Statistics					
		Pretest		Posttest		
	N	Mean	St.Dev.	Mean	St.Dev.	Change
Subscale: Personal Efficacy	57	2.68	.52	2.81	.51	0.12
Subscale: Interpersonal Control	58	2.91	.24	3.16	.20	0.25
Subscale: Social Competence/Confidence	58	3.45	.00	3.67	.00	0.23
Subscale: Social Competence/Confidence	58	3.65	.07	3.76	.07	0.09

Girls Empowerment

The Girls Empowerment pre and post survey included 22 items to assess the girls skills, knowledge, and attitudes related to personal safety and self-defense. Items also compared the youths' level of confidence, empowerment, and knowledge of strategies to prevent physical/sexual abuse, date rape, sexual harassment, and domestic violence. A pre-post analysis determined whether there were any differences in knowledge, skills, and attitudes as an outcome of the course.

Exhibit 4.28 displays the outcomes for the 1995-96 Girls Empowerment with Chrysalis students. Over half of the Program girls attended Girls Empowerment (n=96); this is lower than expected because the level of program participation or dosage was problematic during Year Two. The results indicate that participants gained new skills and confidence in all 22 categories assessed. About 90 percent of the young women reported that they learned new skills and knowledge. Over 82 percent of the youth reported that they gained new awareness of their own strength and felt capable and empowered. The greatest increases in knowledge were in these areas: how to deal with date rape and how to prevent physical/sexual abuse. Several self-defense skills were improved: body grasp escapes, choke hold escapes, wrist grab escapes, verbal assertiveness, and hand strikes. Over 66 percent of the girls report they would take an advanced self-defense class. A detailed summary of the Girls Empowerment course is in Appendix F.

Exhibit 4.28
Summary of Girls Empowerment Evaluation, Year Two



Supplementary Research Activities

The Validity Study of Self-Reported Drug Use

As mentioned earlier in Chaper 2, a special study was conducted during Year Two to validate the students' self-report of certain health risk behaviors on the *Risk and Resiliency Index* (see Validity Study Report in Appendix B). The study compared results of tests of hair samples gathered from students with their self-reported use of drugs. Of the illicit drugs included on the *Risk and Resiliency Index*, the hair sampling procedure could sensitively detect use of marijuana, inhalants, cocaine, amphetamines and heroin. Among the students who participated in the validity study, self-reported prevalence rates of all substances but marijuana were so low (less than 5% per group or one or two students using) that an assessment of the agreement between the hair analysis and self-report would be highly positively biased. That is, when marginal usage is this low, any sort of statistical index of agreement will indicate high agreement, due to the preponderance of negative results.

With this in mind, the validity results reported here will focus on marijuana use. In all, 94 young women participated in the hair analysis process. Of these, 7 submitted hair samples that were too small to adequately analyze, and another 3 students did not respond to the 30-day marijuana use

item on the survey. This left 84 Chrysalis and Research students for whom both a valid hair analysis result and a response to this survey item was obtained. Results of the initial comparison of these data are shown in Exhibit 4.29 below.

Exhibit 4.29
Results of Hair Analysis and Self-Reported Marijuana Use

Initial Theshold of Hair Analysis for Marijuana	Result	Self-Reported Marijuana Use (Risk and Resiliency Survey)		Total
		No Use	Any Use	
Physiological Test of Marijuana Use (Hair Analysis)	Positive	3	2	5
	Negative	57	22	79
	Total	60	24	84

Although the results of this comparison are cast in a very simple table, the interpretation can become quite complex. The agreement of the two assessment procedures (self-report and hair analysis) is represented by two cells — those students found to be users by both assessments (n=2), and those for whom both found to be non-users (n=57). Combining these two, there is just over 70 percent agreement between physiological and self-reported assessments of marijuana use.

Another approach is to focus on the "user" samples from each procedure. Of the 24 students who reported some use of marijuana in the past 30 days on the survey, only two of them also were detected as positive by the hair analysis. This can be represented as an approximately 8 percent agreement rate. Conversely, of the five students identified positively by the hair analysis, two indicated they had used marijuana in the past 30 days on the survey. This may be expressed as a 40 percent agreement.

One of the circularities operating within a validity study is that neither one of the assessment procedures necessarily provides the "true" picture of whether a student has used marijuana or not. Hair testing is a promising technique, but it is not flawless. Self-report surveys, while carefully controlled in the Chrysalis evaluation, are also often questioned. Among other things, this makes it problematic to choose from among the agreement indices described above. That is, if one could be considered the "correct" procedure, it would suggest we calculate the percentage of times the other assessment results agree with it.

Even with this uncertainty, and options for expressing agreement, the overall correspondence between the two procedures is not encouraging. Looking beyond their agreement, and interpreting the marginal frequencies of marijuana use from the two procedures suggests one possible explanation. Of those students included in this analysis, over 28 percent (24 of 84) indicated they had used marijuana on the survey; while the hair analysis procedure detected only about six percent — less than one-fourth of the self-report total. This discrepancy indicates that, either the girls were over-reporting on the survey or the physiological procedure is too conservative. The first explanation is unlikely in that this prevalence rate is comparable to other survey results obtained from other samples in other locales. To explore the second, the RMC Research team consulted with Psychemedics to see if it was reasonable to lower the detection threshold on the hair analysis to determine whether an appreciable portion of the self-reported users who had tested negative on the initial test would test positive with a lower quantity of marijuana evidenced in their hair sample.

Results of this secondary analysis yielded an additional nine students who tested positively at this lower level, and another five who "just missed" at this threshold. Adding the nine to the "positive" category brings the agreement rate among self-reported marijuana users to just under fifty percent. Adding the additional five who "just missed" brings the agreement to about two-thirds. Lending their experience to this, Psychemedics staff were clearly more comfortable with including the positives from the lower threshold than they were with the "just missed" category.

Applying this adjustment to the previous exhibit reconfigures the Exhibit 4.30 as follows:

Exhibit 4.30
Results of Hair Analysis and Self-Reported Marijuana Use After Lowering Threshold of Hair Analysis Test for Students Who Had Reported "Any Use" on the Self-Report Survey

Lowered Theshold of Hair Analysis for Marijuana	Results	Self-Reported Marijuana Use (Risk and Resiliency Survey)		Total
		No Use	Any Use	
Physiological Test of Marijuana Use (Hair Analysis)	Positive	3	11	14
	Negative	57	13	70
	Total	60	24	84

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While these results show improved agreement between the two assessment procedures, they are still not terribly impressive from a statistical point of view. Since the hair samples from the self-reported non-users were not retested using the lower threshold, we cannot compute overall agreement indices with any certainty. At best (i.e., if all self-reported non-users still tested negative), the overall agreement index would be 81 percent — comparable to the 79 percent agreement between urinalysis and self-reported marijuana use in a criminal justice population (National Institute of Justice, 1991), and better than many found by Mieczkowski (1990) in his comprehensive review of self-report validation studies. This appears to be a high figure, but one that still indicates approximately one in five students have used marijuana according to one method, but have not used according to the other.

We remind ourselves that this was a highly experimental procedure, using a relatively non-intrusive physiological measure to validate self-reported marijuana use. The literature suggests promise for hair analysis, although it is not yet recognized by the National Institute on Drug Abuse (NIDA) as a valid technique. Other researchers (Harrison, 1995) have pointed out that it is highly preferred to urinalysis due not only to its relatively non-intrusive nature, but also because its window of detection of drug use is so much wider. Given that the secondary analysis results here could yield agreement rates comparable to those found in urinalysis studies, hair analysis may be a reasonable method for use in a school population.

We suspect that there is still much to learn in the implementation of such a procedure, however. Our consultations with the professionals at Psychemedics indicated to us that there are still many key decisions to make in setting standards and criteria for the physiological testing, particularly when working with this population. It is reminiscent of the decisions the applied researcher makes in setting acceptable probabilities for Type I (false positive) and Type II (false negative) errors.

HIV/AIDS Education Project

The HIV/AIDS education supplement was added to the existing Chrysalis program in order to test the hypothesis that delivering an HIV/AIDS education curriculum within an existing prevention program would be more effective for participants than providing a HIV/AIDS curriculum that was outside of a prevention program. To test this hypothesis, the Chrysalis Research group was used as the nonprevention treated comparison group.

The initial implementation design for the HIV/AIDS curriculum was for both Program and Research participants to have the curriculum presented in four separate sessions during the school year. The Chrysalis Program students had prescheduled Open Sessions which made it convenient to insert the curriculum into those time slots. Scheduling four sessions for the Research group was more of a challenge, however, as they had no regular meeting times. Program staff decided that it would be more efficient to use an all day retreat format for the Research girls in order to resolve the scheduling challenge.

The retreat format turned out to be the most effective way of delivering the HIV/AIDS curriculum. The HIV/AIDS curriculum could be presented all at one time, and thus the girls who attended did not miss any of the important components of the program.

With this change in implementation and the positive results that change brought to the Research girls in the form of more efficient and effective delivery of the curriculum, assessing the differential effectiveness of a HIV/AIDS curriculum delivered within an existing prevention program compared to a nonprevention treated comparison group could no longer be done.

The primary tool for assessing increased knowledge and preventative attitudes about HIV/AIDS among Chrysalis participants was a survey developed by the HIV/AIDS education specialist and the evaluation staff. The first seven questions on the survey deal with how the HIV/AIDS virus is transmitted (knowledge); the last 10 questions ask about the change in intentions of behavior to protect against HIV/AIDS (attitudes).

Analysis by dosage level finds that Program girls who attended two or more HIV sessions had improved outcomes and gave a higher percentage of appropriate responses in five of the first 7 items when compared to Research girls. If the survey results are compared between all Chrysalis students and Research students, then a higher percentage of most appropriate responses were found in the Program girls for only three of the seven questions. Thus, dosage appears to be an important factor in showing a positive impact on the girls' knowledge of HIV/AIDS and its prevention.

The remaining ten survey items measure protective behaviors against HIV/AIDS. Again, analysis by dosage level shows that Program students who participated in two or more HIV sessions had a higher percentage of appropriate responses to four of the ten survey items than Research girls. Four additional questions showed percentages about equal to the Research girls, and only two questions

showed lower percentages. Whereas, when not looking at the dosage level percentages, research girls were more likely to give the most appropriate response—doing so for seven of these items.

The Program and Research comparisons were based on post test scores only, assessing students' knowledge and attitudes after they had received the HIV/AIDS training. Within the Research group, we had the opportunity to document the change in the outcomes from the pretraining survey. A comparison of pretest and posttest responses for the Research girls shows substantial increases in appropriate responses following exposure to the curriculum.

When comparing Chrysalis and Research groups, survey responses showed that knowledge about HIV/AIDS contagion and prevention and intention to change behavior to protect against HIV infection was equal to and often times higher for Chrysalis girls who had attended between two to four curriculum sessions than Research girls who had received the entire curriculum at one time.

Overall, both the intervention and control groups benefited from the program, but the control group received the benefit of more effective implementation of the curriculum. In retrospect, the curriculum needed to be delivered the same way to both groups to yield a valid comparison of effectiveness.

Media Literacy Project

The media literacy curriculum and the two-week workshop were designed to increase students' skills, knowledge, and attitudes related to the content and form of media messages and their impact on self-image, ATOD use, and health issues. It was anticipated that the media literacy training would empower youth to better evaluate the impact of visual/print images on women of various cultures.

Process and outcome evaluation activities included structured observations and interviews of participants, survey administration and review of instructor notes and student evaluations. All of these activities were conducted to determine to what extent the Media Literacy Project had accomplished the desired effects on the target population.

Three of the Chrysalis Open Sessions, were devoted to teaching the skills needed to identify and critique the messages various media disseminate regarding women (including adolescents and women from various cultural and socioeconomic groups), and the impact of these messages on self-image, use of ATOD, and other unhealthy behaviors.

Participants were encouraged to keep journals recording their observations of the content and form of various media messages. This activity was used to spur discussions and counter the tendency to be unquestioning consumers of media such as television and movies, whose rapid-fire images prevent active interaction or questioning by viewers of what they see on the screen.

The media literacy activities provided during the regular school year also benefited the Chrysalis case managers and one or two high school teachers responded with an interest in learning how to integrate the subject matter into their classroom curricula effectively.

Media Surveys. Pre and post surveys were administered to participants at the media literacy open sessions. A total of 108 surveys were completed; there were 72 pretest surveys and 36 posttest surveys. Of the three media sessions offered the Program group during the school year, 60 percent (n=114) of the 189 students attended at least one session. About one in eight (12 percent) of the Program girls attended all three sessions. As the surveys were not linked to a project identification number, these participation differences could not be related to any differences in survey responses.

The first 13 survey questions asked participants to rate their knowledge pertaining to such things as television advertising and public service announcements and to rate their ability to recognize distortion of truth, manipulation, and biases found in the media. Statistically significant increases in the percentage of "very good" responses occurred when participants were asked to rate a) their skills as a critical viewer, b) their knowledge of how to produce a video message, and c) their ability to communicate prevention messages to the public. The increase in "very good" responses was also nearly significant for the ability to recognize media marketing to ethnic groups between pre and posttest. In addition, the number of participants who responded "don't know" to each item lowered dramatically from pre to post, indicating that familiarity with the issues had been greatly enhanced.

The remaining ten statements measured attitudes and opinions about community exposure to drug and alcohol abuse information through the media and the need for this type of exposure in the Portland area. The posttest showed a sharp increase in the percentage of girls who agreed with statements indicating that Portlanders have access to friendly and humane public services and support media campaigns aimed at preventing drug and alcohol abuse and showed a moderate increase in support for additional funding for alcohol and drug prevention programs in schools.

Media Production Workshop. Ten Chrysalis girls were recruited to apply what they had learned about media literacy during the school year to designing and producing a 30-second animated public service announcement (PSA) and a three-minute videotape. The diverse group of students attended a two-week media literacy workshop in June 1996.

The project was a collaborative work of all the students. The theme and story line of the PSA, *Fight Girl Poisoning*, was created and developed through consensus by the group. Each person had a role to play in the production and was responsible for getting their work done in the time frame allotted. Some of the girls drew the dozens of pictures needed for each frame of the PSA. Other girls were responsible for developing the script and the audio portions of the video.

The three-minute video, *Girl Power*, required each girl to develop a small mini-story about an ATOD issue that was important to her, draw the pictures, and provide the script and audio for their piece. Each day was full of acquiring new knowledge and skills. The participants learned what animation was, what it entailed, and how to apply that knowledge to the development of their own animation work. They were introduced to a variety of film equipment and were shown how to use it.

An important aspect of the workshop was the commitment that each participant was willing to show during the two-week course. All the young women were required to attend the workshop every day and to arrive on time. This kind of commitment is important as the project needed everyone's input and work. Otherwise, the project would not have succeeded as intended. This commitment of their time was also significant because many of the girls had attendance problems in the past school year.

Video Premiere. Project Chrysalis held a special showing of the PSA and short video the girls developed in the media literacy animation workshop for participants, friends and family and staff. It was held at the Northwest Film Center's auditorium, next to the Portland Art Museum, in downtown Portland. The PSA, *Fight Girl Poisoning,* and the film, *Girl Power,* were shown on the big screen, which awed and impressed not only the workshop participants but other members of the audience as well. The pride that the girls and the rest of the audience felt about the workshop results was palpable. Each girl was given her own copy of the PSA and film as well as a special award for her individual contribution to the workshop.

Case Study Findings

The Chrysalis case studies contribute to the empirical description of the student population and the implementation of the project. As noted earlier, four case studies were conducted during Year Two of the program; two with Chrysalis Program students and two with Research Group participants. Cases were selected to extend the understanding of specific variables related to the target population and program implementation. For example, the first case studies investigated the relationship between childhood abuse and its impact on teen parenting, pregnancy, and alcohol and other drug use.

The case studies augment the outcome evaluation by giving a voice to the student risk and resiliency factors. In Year Two, the case study added two new students, while continuing to follow two students from the pilot cohort. The study also expanded the type of case study participants to include additional variables.

The following sections provide excerpts from two case studies. These case summaries describe the experiences of one Chrysalis Program Group participant, Kate, and a Research Group student, Dianne, during their time with the project.

Case 1 — Kate

Kate is a 17-year-old biracial young woman at Salmon High School. As a sophomore, she learned about the Chrysalis program for female victims of physical, sexual, or emotional abuse and referred herself to the school counselor. During the screening interview, Kate spoke of four characteristics associated with high risk: she was a victim of sexual abuse, a child of substance abusers, a lesbian, and economically disadvantaged. As a junior, Kate continued her active participation in the Chrysalis program.

Kate is careful and thoughtful in her responses to the questions that are asked of her, taking her time to be sure that she expresses exactly what she means. It is not only important for Kate to answer questions purposefully but to ask questions of herself in order to find the truth. As she says,

I ask myself what am I doing here and why. What do I want to do. That sort of stuff.

A self-described athlete, she actively takes part on her high school's soccer, tennis and basketball teams. In tennis, she received the most valuable player award at the high school's year end awards ceremony. Kate also does well academically, maintaining a high B average, but her passion is her music. A career in music is where she will focus her energy when she graduates from high school. In school, she has sung in the choir and has performed in several plays. She writes and sings her own songs and plays the guitar. After graduation, Kate plans to attend college, hoping to finance her studies with an athletic scholarship.

Of African-American and European-American heritage, Kate lives with her father. Her parents divorced when Kate was three, but her mother and stepbrother moved back into the home when she was eight years old and stayed for five years. Kate said that this period of time was very difficult and stressful for both her and her father. It was during the first year of her mother's move back into the house that the sexual abuse occurred. Her stepbrother abused her when she was eight years old and he was twelve. The abuse began in the summer before Kate started third grade and lasted for several months until she told someone at school who had given a presentation to her class about what a "good touch, bad touch" meant. It took awhile to remove her stepbrother from the home, but he was eventually moved.

After the abuse was recognized, Kate attended a support group for about six months. Her recollection of attending the support group is not clear. All she remembers is not fitting in well with the group. She did not have individual counseling and felt that she did not need it. Kate doesn't dwell on her sexual abuse experience. To her, the abusive incident isn't as important as "the emotional journey I've been through." She is willing to talk about it, but feels that the story of her abuse doesn't "tell anybody about me as a person." Working on other issues in her life are more important to her right now.

Kate is from a family with an extensive history of substance abuse on both the paternal and maternal side. Her mother's family, including several of her uncles, have suffered serious consequences from their substance abuse. It is Kate's greatest worry that she won't be able to resist using alcohol or other drugs at some time in her life. She worries that:

> *I might give up and become abusive of substances and people. I might just stray far from what I hold true now. I might become somebody I can't agree with.*

Kate attends, along with her father, various support groups including AA, Alanon, and Alateen. She and her father talk openly about the influence drug abuse has had on their lives.

Kate has a close and supportive relationship with her father and considers him to be her family. Her father supports them financially by repairing musical instruments. Years ago he was a musician and played in a band along with Kate's mother. Her mother is very much on the periphery of her life and is not relied on for help or approval. Kate describes her mother, who was also a victim of abuse, as a "flake" and a person who doesn't take responsibility for her life.

Kate is a lesbian and feels comfortable with that reality although she has not discussed this with her mother and doesn't want to at this time. She does not actively declare that she is a lesbian, but will tell people if they ask. Kate said she has known for a long time that she was gay, but finally understood what it meant for her in eighth grade and that it was okay. She and her father have a very open relationship and discuss all aspects of her life including her sexual orientation.

Her experience as a lesbian sets her apart from her peers. She tends not to have close friends and relies often on her father to be her social ally. As she says,

> *I don't talk to my friends much. It's not like a choice. They have jobs, have boyfriends and things. I talk to my dad a lot, and teachers.*

Kate says that there definitely is a gay/lesbian culture--a way of saying and doing things that is quite different from the heterosexual world she lives in. She plans to become involved in the gay community when she graduates from high school.

Kate has regularly attended the Chrysalis support group meetings, participated in the Girls Empowerment and Challenge Course and in the program's end-of-the-year celebrations. She particularly liked the Challenge Course because it was physically demanding, and she enjoyed the opportunity to get to know her fellow group participants.

Throughout her time in Chrysalis, Kate has not liked the support group component of the program. She was impatient with the group leader, who she felt was not direct in her approach in dealing with the topics being discussed in the group, taking too long to get to the point and thus giving the participants little time to take part in the group in a meaningful way. She expressed ambivalent feelings about coming to group.

I still don't like the groups, and oddly enough, I look forward to them in a weird way even though they interrupt my favorite class of the day. I think it's just because I have one person who understands me a little bit, and we have silent conversations across the table or when we're sitting next to each other. Basically, it's a chance for us to make fun of the other people who don't understand us. I feel guilty. I feel like since I'm close to this person, I don't want her to be stuck with the other people, so I come for that.

Kate attends several different support groups outside of class and feels that these meetings give her what she needs. At these meetings no "cross-talk" is allowed, in other words, no one interrupts, makes comments or gives advice to the person who is talking. She says that just the opposite happens at Chrysalis support groups. Others interrupt what she is saying with the end result that Kate doesn't have the opportunity to share what she wants to share. She says

I shared my story about my abuse and I said this is what I want: I want you to not interrupt me and I want to be able to say my thing. . .And what this girl did is she wrote down questions and she'd ask me a simple question, like yes or no. I'd say no and she'd say,'Yeah, that's interesting because with my story, blah, blah, blah.' This is my time. Don't steal my fire. It pisses me off that they do that, and they do it all the time. So the meeting turns into their thing.

The support group component has been a disappointing experience for Kate. There were other program components she found useful and interesting such as the HIV/AIDS Open Sessions . She especially enjoyed her participation in the Media Literacy film workshop during summer 1996.

In summary, Kate has many inner strengths and external supports that have assisted her in meeting the challenges of a background of sexual abuse and family substance abuse. A close and supportive relationship with her father; a comfortable acceptance of her sexual identity; a recognition of her own self-worth; the willingness to put her abuse behind her; an active involvement in sports; a passion for music; plans for continuing her education; and participation in the Chrysalis program have all contributed to a positive outlook for Kate's life.

Case 2 — Dianne

Dianne is a 17-year-old Caucasian young woman, a sophomore at Adams High School. Her school alcohol and drug counselor referred her to the Chrysalis Project two years ago based on her history of sexual and emotional abuse. At her intake interview, Dianne spoke of many experiences that put

her at high risk: she was a child of substance abusers, a recovering drug abuser herself, a school dropout lagging at least one year behind her peers in academic credits, she was experiencing severe mental health problems, a victim of chronic pain, and at risk of suicide. During her sophomore year, she was assigned to the Chrysalis Research (control) group. She was sad that she was not selected for the intervention, but happy to participate in the Research activities. As she met several variables identified for the case study, her case manager recommended Dianne as a good candidate for a case study and a girl who might also benefit from having another caring adult in her life.

The young 17-year-old woman came toward me looking like a typical teen: an average-size girl with a face like a flower, dark eyes, and a turned-up nose covered by a sprinkle of freckles. Her shoulder-length dark hair was pulled back casually behind her ears. She started talking animatedly about her friends, her favorite subject at school (band), her pets, and how much she loves to ride horses. This was my first meeting with Dianne 18 months ago.

Dianne thinks carefully before she responds to questions asked of her. Yet, the more she talked, the less she resembled the young woman I'd read about who had lived through trauma that most of us never experience. Dianne is the youngest of four children; her step-siblings are 13 to 22 years older than her. She was raised by her mom from birth to age five, as her natural father abandoned the family before Dianne was born. Poverty and an unstable family environment led to early emotional and sexual abuse by her first step-father and a male babysitter. The experience has made her feel isolated from others, with only her mom as her protector and friend. She now says:

> *I'd like to go back and change everything at age two. No more abuse. I wish my mom had divorced my old step-dad then, so we wouldn't have to learn new patterns.*

One of her earliest positive memories is at age five when she met, and then introduced her mom, to the most important man in her life, "Poppy," her step-father who died this past year:

> *He lived upstairs from us. After school, I'd go up to visit and he'd be baking cakes, muffins, or cookies. One day I introduced my mom to him and they got acquainted. All these years he has taken care of mom and me. Later, we moved in with him and he became my step-dad. Now we all laugh that I met my 'Poppy' before my mom did.*

When Dianne was 13 she began to skip school and interact with peers who were alcohol and drug-involved and delinquent. Over the next two years, she drank and smoked marijuana, ran away from home, was pregnant, and dropped out of school. At age 15, she went to Kaiser for drug assessment and treatment, but soon relapsed. Her mom put her in an inpatient treatment program. Since completing treatment, Dianne has attended a neighborhood AA meeting every week, as she says:

> *My recovery is the most important thing to me. It's what I like best about myself. I like that I'm staying clean and sober and can enjoy music too! I'm so proud that I have kept my recovery going for almost two years [now three years]. But it's hard to maintain. I'm working a lot at it still. Some days it's okay; other times there's a lot of stress on me and it's hard not to just take a drink and escape. I wouldn't change anything about my recovery. I learned a lot from it.*

During her adolescence, Dianne has focused more closely on her alcohol and drug recovery than on her recovery from abuse. She does not dwell on her past abuse experiences. She feels that working on other issues in her life [mourning her step-father who died last winter, finishing high school, staying clean and sober, etc.] are more important to her right now. She briefly saw a community-based counselor for group therapy, but dropped out when as she says:

> *It [group therapy sessions] got too expensive and the issues were just too tough to handle right then. I might not be clean and sober today, if I had stayed in that group. I chose to stay with my AA recovery. When I'm older, when I'm ready, when the time is right, I'll work on my other issues.*

Music is Dianne's motivator for coming to school. She actively takes part in her high school's band and orchestra. She is a special education student who doesn't enjoy reading or general education courses, but usually maintains a C average. Computers and keyboarding interest her and she talks animatedly of pursuing a career working with computers. She has no goals beyond graduating from high school, except for a notion about taking a computer course at a vocational school.

Dianne has seen Chrysalis from both sides — from her vantage point in the Research group and from the perspective of her best girl friend, Allison, a Chrysalis Program participant. Allison was in Chrysalis for two years and graduated from high school last June due in a large part to the support and guidance of her Chrysalis case manager. Dianne did not graduate from high school with her friend, but you could see her tears as she played in the orchestra as the graduates marched across the stage to receive their diplomas. This fall Dianne is back in school trying to achieve her diploma.

Her involvement with Chrysalis has both supported and disappointed Dianne. In September 1996, she asked her case manager and this researcher if she could be in the Chrysalis Program group this year. She felt that she had contributed to the case study research and she wanted to be part of the Chrysalis support group experience. For all involved, saying no was hard. As an alternative, she continues to take part in an alcohol and drug recovery support group facilitated by the case manager at her high school.

The case study will continue to follow Dianne this year to determine what resources are available to her and what outcomes this young woman will create for herself from her experiences. We are especially interested in learning what features of her life help to strengthen her own resolve and resilience. Uncovering these characteristics will help the learning community identify what works in keeping the next generation of children safe.

Comparative Health Risk Behaviors and Protective Factors of Case Study Youth

The preceding excerpts from two of the Chrysalis Year Two case studies give a voice to participants in the Program and Research Group. During Year Two, four students participated in the case study research. Exhibit 4.31 compares the demographic characteristics, health risk behaviors, and protective factors evidenced among the four case study young women. Over the course of the next year, we will further investigate the relationship of these variables, specifically the number and type of risk and resiliency factors, on positive and negative outcomes related to the program. The researchers anticipate that the Year Three case study analysis will provide case-ordered descriptive categories to link the Program Group students by level of risk, dosage level, and the level of impact of the program on the participants.

Exhibit 4.31
Risk and Protective Factors for Case Study Students, Year 2

Risk and Protective Factors by Domain	Case 1	Case 2	Case 3	Case 4
DOMAIN: INDIVIDUAL				
Chrysalis Group	Program	Research	Program	Research
Age	16	18	17	16
Grade Level	10	10	11	10/Dropout
Ethnic Group	White	White	Black/White	White
Chrysalis Dosage Level, Year 2	High	NA	High	NA
Uses Alcohol or Other Drugs	•	In recovery		•
Uses Tobacco		•		•
Violent/Delinquent Behavior	•			
Juvenile Justice Involvement	•			
Witness to Violence	•			
Victim of Domestic Violence	•			
Knows Someone Murdered	•			
Seriously Considered Suicide	•	•	•	
Severe Mental Health Problems	•	•		•
Physically Disabled/Chronic Pain		•		
Teen Parent				•

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Risk and Protective Factors by Domain	Case 1	Case 2	Case 3	Case 4
Runaway/Foster Home	•			
Sexual Minority Youth			•	
Sexually Active	•	•		•
Victim of Physical Abuse	•			
Victim of Sexual Abuse	•	•	•	•
Victim of Emotional Abuse		•	•	
Has a Hobby (music, sports, crafts)	•	•	•	•
Demonstrates Self-Reliance Skills		•	•	
Demonstates High Self-Esteem			•	
Evidence of Support/Guidance		•	•	
DOMAIN: FAMILY				
Family History of AOD Use (COSA)	•	•	•	•
Low Socioeconomic Level		•	•	•
Parent with Emotional Problems	•			•
Parent History in Justice System	•			
Parent Incarcerated	•			
Family Norms Favorable to Drug Use	•	•		
Lives with Immediate Family		•	•	•
Low Involvement with Extended Family	•	•		
Lives in Foster Care	•			
Isolated from one or more Family Member			•	•
High Expectations from Parent/Family	•		•	
DOMAIN: SCHOOL				
Grade Point Average, Years 1 & 2	2.0 / 2.3	1.7 / 3.5	3.4 / 3.8	3.4 / 3.5
Total Days Absent, Years 1 & 2	19 / 1.0	47 / 59	36 / 13	12 / 22
Chronic School Failure		•		
School Dropout	•	•		•
Excessive Absenteeism		•	•	
Learning Disabled/Special Education	•	•		
Plans to Attend College	•		•	
Involved in Clubs, Teams, Band, Sports	•	•	•	
DOMAIN: PEERS				
Alienation and Rebelliousness	•			•
Early Initiation of Problem Behavior	•	•		•
Peers Favorable to Antisocial Behavior		•		•
Peer Attitudes Favorable to Drug Use	•			•
Friends Use Drugs	•			•
Rewards for Conventional Involvement	•	•	•	

Chapter 5. Cost-Benefit Data and Analysis

Government funding decisions have increasingly been based on cost and effectiveness measures. The cost to society of alcohol and other drug use have been well-documented among the prevention community. But, the many positive results of effective prevention and the cost savings of these investments have not been convincingly communicated to the general public. Evaluation can help build the case for prevention by identifying and developing new ways to demonstrate cost-benefits and cost-effectiveness in programs which contribute to the decline in alcohol, tobacco, and other drug (ATOD) problems.

In 1990, it was estimated that alcohol and other drug-related crime cost this nation over $57 billion in criminal justice expenditures and lost productivity. Health care brought this total to $165.5 billion (Johnson, 1993). That is more than $800 per year for every man, woman, and child in the country.

Each year, over 100,000 people die from the consequences of alcohol abuse. Another 400,000 die from cigarette smoking; and 50,000 die from the long-term effects of passive smoking (Public Health Service, 1991). In addition to the number of deaths directly attributable to alcohol, tobacco, and other drug (ATOD) use, the link between these behaviors and traffic fatalities, violence, HIV/AIDS, rape, teen pregnancy and child abuse represent even greater costs to society. People who die from alcohol-related causes lose, on average, 26 years of their normal life span; from smoking-related causes, about 20 years; and from drug-related causes over 37 years (Johnson, 1993).

At this stage of the Chrysalis program, the specific consequences and costs of health risk behaviors are beginning to be specified by the project team. Data presented earlier in the report provide some indication as to prevalence rates of these risk behaviors in the target population that ultimately lead to these consequences for these individuals and costs to society.

During Year Two, the project delivered 12 months of full services. Since this first Chrysalis cohort began services in September 1995 and will complete the program in June 1997, we will not be able to speak to the degree to which the program is effective until fall 1997. Obviously, benefits cannot be estimated without information on program efficacy. At this interim stage of the project, when program efficacy has not yet been fully demonstrated, we ask why do an extensive cost analysis without first establishing the efficacy of program outcomes. The project staff will study these issues

in greater detail and provide a thorough cost analysis linked to outcomes as data becomes available. Exhibit 5.1 presents the cost side of the cost-benefit analysis for Year Two in reasonable detail.

Exhibit 5.1
Chrysalis Cost Benefit Analysis, Year Two
July 1, 1995 to June 30, 1996

Description	Amount	Comments
Amount Budgeted (non-restricted)	463,613.00	Includes CSAP HIV & Media Supplementary Grants; does not include carryover funds.
Amount Expended	386,891.44	
In-Kind Contribution	59,533.00	In-Kind contributions: project director's salary/fringe (.2 FTE); high school principals salary/ fringe (12 @.05 FTE, total .6 FTE); clerical support/ budget management (.2 FTE); office space, furniture, equipment; evaluation office space, computer workstation; evaluation optical scanner with survey design and analysis software.
Total Year Two Costs	446,424.44	
Adjustments		
50% of Evaluation Expenditures	38,883.50	Half of the evaluation expenditures were excluded in this adjustment of project costs to reflect the reduced level of program evaluation more typical for special projects conducted by this school district.
CSAP Burden	2,733.92	CSAP requires more reports, meetings, site visits, and adjustments in project products than is generally required for projects funded by the district or other agencies. This is an estimate of the additional burden to meet CSAP's requirements (10 days of project coordinator's time).
Total Adjusted Cost	404,807.02	
Cost Per Participant		
Number of Program Participants	189	
Number of Research Participants	181	The Research (control group) young women received some intervention. In completing the intake process, they had an extended conversation with Chrysalis staff, and received information and encouragement to access additional services from other school or community agencies. They also received an average of 47.5 case management contacts over 21.8 hours during Year Two, along with a 1-day HIV retreat.
Adjusted Cost per Total Participants	1,094.07	
Adjusted Cost per Program Participant	2,141.84	

As described in this report, the program is designed to prevent a number of adverse outcomes for program participants. The evaluation is designed to measure the degree to which the program is successful in promoting resilience and preventing negative outcomes. As discussed above, there are clear costs to the individual and/or to society associated with several outcome measures which will be a part of the evaluation, for example:

- School dropout is associated with decreased individual lifetime earnings;
- Pregnancy and teen parenting are associated with significant health and social costs;
- Health and mental health problems increase treatment costs and decrease productivity;
- Tobacco use is associated with increased health care costs and mortality; and
- Contact with police, property damage, and fighting associated with drug and alcohol use has obvious financial and social costs.

During the next two years we will further review the research literature related to these issues in order to develop a cost-benefit model appropriate to this program.

Chapter 6. Conclusions and Lessons Learned

Project Chrysalis enjoyed much success at its 12 school locations during the second year of operation. School administrators and staff have been very supportive of this innovative program for high risk female adolescents recovering from child abuse. Chrysalis was fully implemented in each high school in the district during Year Two, due in part, to a successful pilot program at eight schools in Year One.

Clearly, the Chrysalis Project is dealing with a special group of young women. All have experienced physical, sexual, or emotional abuse at some time in their lives. Most of the young women have experienced family substance abuse issues, chronic school failure, economic disadvantages, violent situations, and severe emotional problems. These conditions have certainly effected the health risk behaviors of these young women. Briefly, the data presented earlier indicate that the Chrysalis students (either Program or Research group) are:

- Sixty percent more likely to be sexually active than high school women nationally;
- Three to five times more likely to have had their first sexual intercourse at age 12 or younger, and to have had four or more sexual partners in their lifetime;
- Five times more likely to have been pregnant or told they had contracted a sexually transmitted disease;
- Twice as likely to be current smokers, smoking two or more cigarettes a day;
- Fifty percent more likely to have attempted suicide, and twice as likely to have attempted it so seriously that an injury occurred; and
- Fifty percent more likely to have carried a weapon, or be threatened by one, in the past 30 days.

These results indicate just how dramatically attitude and experience can stimulate positive or negative behavior in young women. These, and related findings, have taught the researchers much about program management, fidelity of implementation, and evaluation perspectives in the second year of the demonstration project. It is important to note, however, that all of the results at this stage of the project are merely associations, that is, they show the presence or lack of related behaviors, and not the cause of the behavior. In this section, the authors will discuss some of the major findings, lessons learned, and next steps for future of the project.

Project Management

Lower Enrollment than Anticipated in Year 2

As discussed in Chapter 2 of this report, the Year Two implementation of Project Chrysalis included serving three-quarters of the target number of students expected in a full project implementation. A specific consequence of this lower enrollment issue included the addition of program awareness presentations to introduce eighth grade girls to the Chrysalis program. Waverly therapists conducted several sessions in spring 1996 to broaden the program's exposure with more young women. To date, these sessions have brought a significant number of preliminary intakes to the program.

Project Not Fully Staffed for Entire Budget Period

In Year Two of the project, personnel changes were an issue. The project coordinator took a medical leave for five months, the project secretary took another job and several months lapsed before her position was filled, and an internal evaluator took a condensed work week for a three-month period. This was problematic because with four new school-based case managers in Year Two, staff continuity would likely have improved the fidelity of the Year Two implementation. Yet, throughout this time, the project director and other staff increased the level of collaboration to ensure that the project moved steadily forward. Various tasks were divided up and the majority of project tasks were accomplished. A fully staffed project was online at the start of Year Three.

Documenting Program Participation

As CSAP staff and associates are well aware, the level of program participation or dosage is a critical issue in measuring program outcomes. During Year Two, the project management team, evaluators, and case management staff worked through many issues related to identifying levels of dosage and describing program participation. These issues included revising the Chrysalis Activity/Attendance Log to match the curriculum objectives, linking case management activities to the national cross-site evaluation, and establishing process evaluation feedback to case managers to help strengthen the students' academic achievement. The initiation of the Chrysalis Database in the District evaluation office streamlined the tracking and reporting system for the project. As new case managers join the project in Year Three, the staff recognize the need for an Implementation Manual for Project Chrysalis. This product will be completed during the third year of the project.

Project Evaluation

Enhancing Data Quality: the Risk and Resilience Index (pre and post)

From a methodological perspective, the benefits of random assignment and pre and posttesting enable the researcher to confidently attribute any post-program differences between intervention and control group participants to the program itself. In Year Two, although a conceptually sound pre and post data collection strategy was employed, in actual practice, some weaknesses were revealed that limited the data analysis. For example, of the 189 Program participants in Year Two, approximately 70 percent completed either a fall pretest or a spring posttest Risk and Resiliency Index. Of this group, there were only 76 students who took both the fall and spring surveys and met the program's minimum level of services by participating in at least one-third of the program activities. Some reasons for this included high student absenteeism, an extended intake period, a limited time for on-site data collection, and survey administration procedures that informed students of the voluntary nature of the survey and permitted them to skip any questions that might be sensitive to them. Given this option, approximately one-third of the students did not respond to all survey items.

To counteract this bias and improve the consistency and stability of the pre-post data collection efforts over time, the project revised the data collection plan for Year Three. At this writing, the program is in the early stages of its third year. The Risk and Resiliency pretest is now administered to each student individually as part of the intake process which includes: 1) student intake interview, 2) informed consent forms are signed by student and parent, 3) completion of the pre-program Risk and Resiliency Index and the CSAP National Youth Survey for the national cross-site evaluation. These materials are then delivered to the internal evaluator for random assignment to the Program or Research group. While the new data collection process necessarily lengthens the intake, it will ensure that all students have a baseline survey before their random assignment to the intervention or control group. Quality data is the backbone of this program and provides all involved with the best chance of demonstrating the effectiveness of the intervention program. Program and evaluation staff will continue working together to realize the benefits of this substantial investment.

Measuring Fidelity of Program Implementation

The ultimate goal of any demonstration project evaluation is to determine unequivocally what works best, for whom and under what conditions. The use of a true experiment for the Chrysalis evaluation

is a major step toward this goal. Another key ingredient is the adoption of uniform standards for program implementation. The issue of fidelity of the demonstration project implementation centers on a clear statement of program goals, establishing content validity in the curriculum and instruction, and defining what are acceptable (and unacceptable) levels of program variation.

The authors see that these interests might best be served by more targeted applied research. We suspect that even the most prominent Chrysalis components, i.e., the support group sessions, may be of insufficient dosage to yield a significant effect. We believe the evaluation task is to show the efficacy of the full Chrysalis model, not determine the effectiveness of each component in isolation.

Defining the key components of an innovation has long been a subject of study. The Concerns-Based Adoption Model (CBAM; Hall & Hord, 1987) offers a proven research methodology for studying the fidelity of program implementation. As part of a multi-dimensional research framework, the CBAM researchers defined a diagnostic dimension, Innovation Configurations, to describe the operational forms an innovation can take. Using an Innovation Configuration Checklist clarifies the components critical to the implementation and other related components on a continuum from "ideal to "acceptable" to "unacceptable."

These definitions are directly related to the fidelity of the implementation. Some level of variation is tolerated for critical components. This scaling of the key elements of the project will enable project staff to make more appropriate decisions about the use of program, monitor the implementation, refine promising practices, and evaluate program effects. At the present time, the project management team is piloting a *Chrysalis Student Inventory* to further define the curriculum objectives in preparation for scaling the key elements of the program for students and case managers.

Another issue closely related to program implementation is the interest of policymakers in knowing if particular subgroups of students benefit more from the intervention than others — African Americans, school dropout, or younger students versus older youth, etc. These are legitimate interests, but require disaggregating the project sample size (already meager due to lower enrollment as noted above) to levels possessing insufficient statistical power to detect effect sizes of interest.

From the authors perspective, there is some incongruence between the project design recommended in the funding agency's Request for Applications (RFA) and the instructions for the Annual Evaluation Report. The RFA suggested that "what works" in prevention are comprehensive, multi-faceted

interventions targeting multiple domains of individual, family, school, peers, and community. From the outset, Chrysalis was designed to provide just such an intervention in the lives of young women who had experienced child abuse. The instructions for this annual evaluation report, however, encouraged evaluators to break the intervention down into its components, relate specific outcomes to each, and report on the effectiveness of each component in achieving its intended outcomes.

As described in Chapter 2 of this report, Chrysalis consists of six distinct intervention components, ranging from weekly support groups and ongoing case management support to a single, year-end celebration event. Program designers believe that these components will influence the young women not only in themselves, but also in combination with each other — a sort of interactive effect in which the whole is greater than the sum of its parts. Clearly, to modularize the Chrysalis intervention, separating its component parts and dealing with each as though it were an isolated intervention, is incongruent with the reality of the project's implementation and probably its effects. The author's ask for further consideration of the congruence between recommended project design and the evaluation as represented in the required outline and its instructions.

The Chrysalis staff and evaluation team are trying to be as responsive as possible to the interests of all stakeholders in the project. We have updated information on concerns or requests expressed by the funding agency or their contractors in the body of this report according to their specifications. The authors appreciate the special interests of the federal perspective and trust that the funding agency reciprocates and values the extensive efforts that the Chrysalis project staff and research team have implemented to effect a state of the art quality evaluation of this program.

Enhancements to Chrysalis Research and Evaluation

Project Chrysalis features a rare combination of evaluation staffing — an evaluation professional within the Portland Public Schools and another from an independent research firm in the community, RMC Research Corporation. This unique collaboration places a premium on communication and clarity of roles and responsibilities for the evaluation as each staff brings specific strengths.

In Year Two, the Chrysalis evaluation expanded into three new areas — a student drug use validity study, an HIV/AIDS Education Project, and a Media Literacy Project. These new programs brought an additional burden to the evaluation collaboration. From the evaluators perspective, there was an incongruence in the limitations set by the funding agency on the sharing of student information

between the professional evaluators. During the data collection and analysis for the special projects, there were many times when the evaluation would have been facilitated, and indeed strengthened, by sharing student names and project code numbers on a "need to know" basis between the internal and external evaluation agencies. Unfortunately, the validity study bore the brunt of this mandated segregation of participant names and code numbers which were available to the internal evaluator, but not to the external contractor. Due to these complications, the external contractor was forced to suspend the original research design for the *Validity Study of Self-Reported Drug Use*. While the study was eventually completed, it was only through the creative and resourceful approaches of all involved, and at the cost of extra days, that the participants names were held in confidence.

The communication between internal and external evaluators and program staff has resulted in a project evaluation that offers maximum benefits from the perspective of all stakeholders. We believe it is a credit to the program management for their willingness to bear the increased costs of this staffing plan, and suggest that CSAP reflect on the merits of this strategy whenever it is available.

Project Implementation

The results reported in Chapter 4 focused primarily on examining the relationships among different health risk behavior areas. A few of the analyses also focused on relationships among protective factors. The results of these analyses are grouped within six topic areas: alcohol use, cigarette use, marijuana use, sexual activity, violent behavior, and suicide. The following highlights summarize the key findings from the outcome evaluation of the second year of the Chrysalis Project:

Alcohol Use

- Over the course of the 1995-96 school year, a higher percentage of Chrysalis girls reported using alcohol in the past 30 days, while the percentages remained essentially the same in the Research group.
- In general, students who participated more in Chrysalis activities (high dosage) reported more negative attitudes toward ATOD use and stronger refusal skills.
- Chrysalis students who attended the all-student year-end celebration event report more negative attitudes toward ATOD use.

Marijuana Use

- Over the course of the 1995-96 school year, a higher percentage of Chrysalis girls reported using marijuana in the past 30 days, while the percentages remained essentially the same in the Research group.
- Students at higher risk levels (8 or more risk factors at intake) reported higher use of marijuana at school.
- Chrysalis students attending more support groups reported lower rates of marijuana use in the past 30 days.

- Research students receiving more case management sessions and hours were more likely to have used illicit drugs at or before school, and to have been in a car where the driver had recently used drugs.

Cigarette Use

- Students at higher risk levels (8 or more risk factors at intake) reported higher use of cigarettes at school.
- Students in both groups who received more case management sessions and hours report parents and friends with more positive attitudes toward ATOD use.

Sexual Activity

- Over the course of 1995-96 school year, more students in the Chrysalis Program and Research group reported having had sexual intercourse.
- Over the course of the year, fewer Chrysalis Program group students became pregnant than Research students.
- Older students reported having their first sexual intercourse at a younger age and were more likely to report having been sexually abused.
- Students at higher risk levels (8 or more risk factors at intake) reported higher rates of sexual intercourse with more partners.
- Chrysalis students attending more support groups reported fewer instances of sexual intercourse in the past 3 months.
- Chrysalis students attending more HIV/AIDS sessions report lower self-efficacy.

Violent Behavior

- Over the school year, fewer students in both groups engaged in physical fighting.
- While the main effects of fighting go down throughout the high school years, Chrysalis students had bigger declines in fighting than would be expected.
- Chrysalis students receiving more case management sessions and hours were more likely to have carried a weapon to school in the past 30 days; and more likely to have lower GPA and school attendance.

Suicide Risk

- Older students reported more suicide plans and attempts at suicide.
- Students at higher risk levels (8 or more risk factors at intake) reported higher rates of considering, planning, and attempting suicide.
- Research students receiving more case management sessions and hours were less likely to have attempted suicide in the past year.

Resiliency Outcomes

- Chrysalis students at higher levels of risk report being less assertive.
- Over the course of the year, students in both groups report stronger bonding to family and a stronger sense of personal competence.
- Older students in both groups are more assertive and have a stronger sense of personal competence.
- Over the course of the year, younger students report a decrease, while older students report an increase, in positive outlook toward the future.
- Chrysalis students report less of an increase in prosocial bonding to family and school over the year than do Research students.
- Research students receiving more case management sessions and hours feel less personally competent, have a less positive outlook on the future, feel less guidance and support from adults, and less assertive with their peers.

Summary

The data presented in this report on the second year of the project offer a striking portrait of the Chrysalis high risk female adolescent population. Despite lower enrollment than anticipated, staff changes, and other limitations, the project has shown remarkable resiliency and maintained steady progress toward identifying problems and framing solutions. While recognizing this success, the authors recommend continued attention be given to schools in which the project has not been fully implemented, so that any obstacles to implementation can be overcome.

In this report, several analyses were done to examine relationships between the various health risk behaviors of participants and program outcomes. Other analyses detailed differences in responses between Program and Research students on protective factors. Clearly, the results show that relationships exist between young women with a history of physical, sexual, and emotional abuse and increased use of alcohol and other drugs, sexual behaviors, violence-related behaviors, and suicide ideation and attempt. Some of the reported results are not surprising and corroborate those presented in other studies, while the meaning of other findings remains unclear. The research team and project staff will continue their animated discussions and next level analyses to discover the meaning and reasons behind the data. As of this writing, focus groups with students are planned to investigate the issues of survey honesty and students' perceptions of program risk. Thus, the information contained in this report will be immediately useful for those involved in implementing the Chrysalis program.

In summary, as the literature suggests, no single approach will work for all students. The Chrysalis demonstration project has offered a variety of options and support services to address multiple health risk behaviors associated with the high risk female adolescent population. Project staff report that the success of the program to date lies in the involvement of caring, well-informed, well-trained personnel. The staff have uncovered extraordinary learnings about implementating a project with this target population. Key among these learnings is the impact of dosage — the more project activities we get students to attend, the more positive are the outcomes. Chrysalis is a place where students can develop competence and confidence in their abilities, where they can have successful experiences and learn constructive behaviors, where they can find a passage to a safe future. We anticipate that with each passing year there will be increasing evidence of the positive impact the program has on the lives of students. As the research proceeds into the third year, Chrysalis embodies these lessons learned and continues to build on the resiliency framework.

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APPENDIX A

Support Group Curriculum Outline

Chrysalis Support Group Curriculum
Table of Contents

General Information

Chrysalis Intake Process
Intake Form
PPS Child Abuse Reporting Procedures and Resource Materials, 1995-96
Session Format
Session Worksheets
PPS School Calendar, 1995-96

Curriculum: List of 1995-96 Topics (topics may involve more than one session)

Topic 1: Who Are We? What Is A Chrysalis?
Chrysalis Fact Sheet, Chrysalis Group Agreements, Sample Shield

Topic 2: What Is Abuse?
Examples for Brainstorm

Topic 3: Storytelling
Journalling General Guidelines
Why Tell?

Topic 4: Secrets/Trust
Family Loyalty
There's No Such Thing as a Dragon
Secrets

Topic 5: Storytelling Through the Family
Examples of Happenings That Broke My Heart
When I Was Growing Up
Moms

Topic 6: Trauma and Its Effects
The Effects of Trauma—A Model
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How Hurtful Experiences Impacted On Us
Contaminated Thinking Card Exercise
Truths/Right Thinking/Right Beliefs
Wrongs/Wrong Thinking/Wrong Beliefs
Being Hurt and Hurting Others
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Topic 7: Shame/Blame/Depression
Shame and Guilt
It's Not Your Fault
The Depression Continuum & Depression (Information for Leaders)
Features of Different Forms of Depression
Criteria for Major Depressive Episode
Guilt
The Ugly Girl
Where Does Our Shame Come From?
Negative Rules and Negative Messages Commonly Heard

Topic 8: Boundaries
Establishing and Communicating Boundaries
Boundary Exercise

Topic 9: Powerlessness
Locus of Control Questionnaire & Key to LOC Questionnaire
Values Exercise
Autobiography in Five Short Chapters

Topic 10: How We See Ourselves
Image Bags Exercise & Body Sizes and Differences

Topic 11: Intimacy
Intimacy Brainstorm Exercise & Intimacy Scale
Survivors' Beliefs About Relationships
Girls Empowerment (Love Is, Love Isn't)
Danger Ahead!
The Mathematics of Battering
Relationship Contract

Topic 12: Sex and Relationships
Learning to Love
Sex Miseducation
Hellbent on Redemption
Fast talk
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Hooks and Pitfalls in Relationships
Abuse in Relationships
Discovering Your Triggers
How Do I Love Thee; Let Me Count the Ways
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Topic 13: A Celebration of Women
Women's Health Bill of Rights
Pandora and Me
The Stereotypic Feminine Woman
Power
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For Strong Women

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Open Sessions Suggested Topics
Feelings and Feeling States
Learning to Relax
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Values Survey
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Group Roles—Unhealthy to Healthy Scenarios
Problem Solving Exercise
Survival Kit

APPENDIX B

Evaluation of Supplementary Research Project:

The Validity Study of Self-Reported Drug Use

The Validity of Self-Reported Drug Use

Purpose of the Study

The Chrysalis project received funding from the federal Center for Substance Abuse Prevention to conduct a special study to validate the self-report of certain health risk behaviors on the project's *Risk and Resiliency Index* survey. The study features the use of hair specimen analysis as a validating measure of students' self-reports of their illicit drug use. As always, results of the hair analysis and the self report survey were kept completely confidential.

Need to Validate Self-reports

Surveys of alcohol and other drug (AOD) use are often criticized by policymakers and the general public as relying too heavily on the honesty of the respondent. The National Institute on Drug Abuse (NIDA) has identified other sources of error that can be equally biasing (Turner et al, 1992) in the collection of this information via self-report. Young people's reading levels, comprehension of complex concepts within drug use items, and attention spans — in what are often very long surveys — are other complicating factors having nothing to do with their willingness to disclose or respond honestly to these questions.

Project Chrysalis aspires to reduce AOD use behaviors among its participating young women, and this information was collected via a self-report survey. To lend confidence to the interpretation of these results, a validation study was designed and implemented by project evaluation staff.

Literature on Validity of Self-Reported AOD Use

A review of self-report validation studies by Harrison (1995) shows that the validity of self-reporting of drug use is still in need of further research. Most validation studies have been conducted on the criminal justice population who have higher rates of drug use than the general population, thus making it difficult to generalize results from these studies to the general public. Of the validation studies that have been done, it was found that the validity of self-reports is maximized when the validation method is done close to the drug event; the drugs self-reported are socially acceptable; and when the self-report data are collected under controlled conditions.

The validation method used most often has been urine testing. Studies have shown that there is a high degree of congruence between self-report and urinalysis; but there are limitations to this method, most notably the short window of time available to capture the drug event. Detection of illicit drugs through urinalysis has a limited time frame of between two to three days after ingestion, with the exception of marijuana which may be detected up to four weeks.

Hair analysis is a relatively new method for validation of self-reports, but it has not had the widespread acceptance from the scientific community as has urinalysis. It has obvious advantages, including ease of specimen collection and a much longer window of detectability. (See next section for further discussion on pros and cons of hair analysis).

Less intrusive validation methods have been employed including interviewer administered drug use surveys and self-administered surveys. The self-administered surveys have the advantage of providing a high degree of confidentiality to the respondent, an important factor in the validity of their answers. Typically, higher rates of drug use are reported using a self-administered answer sheet as opposed to answering verbally to an interviewer.

According to Harrison (1995), even though the validation methods are flawed to some degree, the research that has been done so far shows that self-reports provide reasonably valid estimates of drug use prevalence. Lifetime drug use in self-report surveys appear to be the most valid, followed by past year and then past month use.

Pros and Cons of Hair Sampling

Those who have done research on the feasibility and accuracy of hair analysis believe it is convenient, safe and effective (Baumgartner & Hill, 1992; Mieczkowski, 1992). Two of the most important advantages of using hair analysis to detect the presence of illicit drugs is the long time span or window of detection it provides and the potential for estimating the ingested dosage levels of illicit drugs based on the test results. Depending on the length of hair, the presence of drugs after ingestion can be detected for several months and possibly for years. According to Mieczkowski (1992), detection of illegal drugs can be achieved at sensitivity levels comparable to those of urinalysis.

Hair analysis and urine analysis offer complementary time frames. It takes approximately five to

seven days before an illicit drug that was ingested is detectable in the hair shaft while ingested drugs appear rapidly in urine. Hair analysis can be used to examine a large time span which provides the long-term history of an individual's drug use.

Mieczkowski (1992) states that the basic scientific analytical process involved in hair analysis technique is well established. The controversy surrounding hair analysis lies in the interpretation of hair analysis outcomes and how these outcomes may or may not be utilized. Drug testing done for screening purposes, as many employers are now requiring of their employees, has legal implications as to its acceptability as evidence in a court of law. The controversy lies in whether hair analysis is sufficiently accurate and reliable, although there have been a number of cases where results of hair analysis has been used in forensic cases and allowed as evidence (Psychemedics, 1994).

Another concern is that the processes by which illicit drugs or other substances are absorbed into the hair are not well understood, making some researchers uneasy about interpreting hair test results. For example, passive exposure to drugs (i.e. living in an environment where others smoke marijuana but the individual does not) may result in a positive test. Proponents for hair testing say that the problem of environmental contamination can be addressed by careful analysis of specimen washing and other techniques.

Mieczkowski, well-known for a number of research studies on the reliability of hair analysis, states that just because there is controversy about hair analysis, doesn't mean that it should stop being used as a form of drug testing. Urinalysis was met with the same kind of controversy and resistance by researchers, but now it is widely accepted and used.

Mieczkowski believes that there is a need for large scale hair testing on select populations in order to provide more empirical evidence for the reliability of hair analysis for drug detection. More studies will then be able to address and answer those problems of the method expressed by those in the research field.

Sensitivity of Hair Sampling

Research has shown (Mieczkowski, 1992, 1995) that hair testing offers advantages over urine testing for detection of illicit drugs. Drugs and drug metabolites remain isolated in the hair shaft indefinitely, thus providing detection during a much longer period of time (approximately 60 days of

use can be seen in one inch of hair) than drug levels in urine (three days of use can be seen in a urine specimen and the specimen can be kept for a very limited time).

It is estimated that it takes about five to ten days before an illicit drug that was ingested is detectable in the hair shaft. A standard hair test covers a period of approximately 90 days. According to Mieczkowski (1992), significant amounts of material that comes in contact with the hair through external means, such as through passive smoke, can be removed by appropriate washing and measurement of the wash outcomes. This is confirmed by Psychemedics Corporation, the company that did the testing for this project who use a number of special processes for handling hair samples that have been chemically treated or exposed to other external contaminants. Psychemedics states that there has been no evidence that passive inhalation of marijuana can produce positive hair test results.

All hair samples collected for this project were tested by Psychemedics Corporation for marijuana, cocaine, opiates, methamphetamine and phencyclidine (PCP). Cutoff levels are the concentration levels above which the hair specimen is deemed to be positive and below which it is deemed negative for a particular drug. Exhibit 1 summarizes the drugs and the cutoff levels for the substances tested by Psychemedics Corporation. Although the amounts of drug deposited in hair are small, by analyzing 10 mg of hair the laboratory can measure the amount of drug deposited by even low level drug users. Except for marijuana, this amount is approximately correlated to the severity of drug use. Hair cutoff values represent minimum concentrations for the detection of low level chronic drug use. Samples reported as positive show the presence of drug in two independent analyses. This two-step analysis is a strong protection against false positive reports.

Exhibit 1

Validity Study Substances and Cutoff Levels

Drug	Cutoff Levels
Cocaine & Benzoylecognine (Metabolite)	5 nanograms/10 milligrams of hair
Methamphetamine	5 nanograms/10 milligrams of hair
Opiates (Codeine & Morphine)	5 nanograms/10 milligrams of hair
PCP	3 nanograms/10 milligrams of hair
Marijuana Metabolites	10 picograms/10 milligrams of hair

Note: Five nanograms is equal to one-fourth gram. Ten picograms is equal to one-tenth of a nanogram.

Method

Working with Case Managers

The validity study coordinator attended a case manager's meeting in April 1996, to inform the Chrysalis case managers about the validity study and their role in that study. At the meeting, they were given a question and answer fact sheet about the hair collection process and the drug test. They were asked to inform their Program and Research students about the validity study a week or two prior to the administration of the survey. The case managers answered students' questions at that time, or they told them that they could ask the validity study coordinator questions at the time of the survey administration. In order to follow the initial sampling design, the case managers were instructed only to say to the Program and Research groups that some of them will be asked to participate in this study and some will not. The case managers did not know which girls would be asked to participate until the day of the survey administration.

The validity study coordinator contacted the case managers to confirm the survey administration dates at their schools. At least two visits to each of the 12 high schools were made by PPS evaluation staff and the validity study coordinator during April and May. Ideally, it would have made the process easier if the survey was administered to the maximum amount of participants at one time. In other words, a case manager would administer it to the Program girls at one time and to the Research girls at another time with possible follow up time scheduled for girls who were absent on those dates. On a few occasions, the validity study coordinator was able to schedule follow-up hair collection times, but there were too many absences at the time of the initial survey administration and hair collection to make it feasible to schedule as many follow-up sessions needed.

Sampling Design

All Chrysalis Research and Program participants were randomly assigned to one of three groups (see chart below). When receiving their *Risk and Resiliency* survey, participants assigned to Groups 1 and 2 also received a consent form that asked them to participate in the validity study that involved a drug test using a sample of their hair. If they consented, they had the test done after they completed the survey. When turning in their surveys, the girls assigned to Group 2 were informed that they were not going to be tested after all. When turning in their surveys, the girls assigned to group three then were asked if they wanted to participate in the study and were asked to sign a

consent form and wait to be tested along with the other girls from Group 1. The case manager and PPS evaluation staff were asked monitor this process.

The initial study design is shown below in Exhibit 2, along with the number of students randomly assigned to each group.

Exhibit 2
Research Design for the Validity Study

Validity Study	Group 1	Group 2	Group 3
Program participants	49	48	44
Research participants	49	57	37

Group 1: When receiving the survey, they also received a consent form. When they turned in their survey, they went to have the hair collection sample done.

Group 2: When receiving the survey, they also received a consent form, but at the time of turning in their survey, they were informed that they would not be tested after all.

Group 3: Upon turning in their survey, they were asked to participate in the validity study and were given a consent form at that time and then proceeded as Group 1.

The rationale for using three groups in the study involved interest in testing whether advance notice of the hair sampling influenced students' responses to the survey. Research indicates that often the mere suggestion of such a procedure (as in Group 2) can have the desired effect. Similarly, the absence of advance notice (as in Group 3) may have the opposite effect.

The rationale for including the Research group in the study is to test whether there is greater or less validity in the responses of the two groups. There is research that suggests that students who are participating in a program that encourages open communication and self disclosure will tend to respond more honestly to questions of a somewhat personal nature, such as those on the *Risk and Resiliency Index.*

Hair Sampling Technique

The validity study coordinator had a list of Chrysalis participants' ID numbers. This list was only seen by the coordinator and PPS evaluation staff and used for the purposes of the study. On the

date of the administration of the survey, the validity study coordinator verified with PPS evaluation staff the girls to be tested. PPS evaluation staff then checked to see if the girls were in attendance and made sure consent forms were signed.

The hair collection for the drug test was conducted according to a strict protocol and guidelines as outlined by Psychemedics — a California-based company that was responsible for doing the laboratory tests on hair samples. The hair testing company provided the necessary equipment for the collection of hair samples (scissors, hair clips, forms and hair sample collection pouches). A separate room was used to conduct the hair collection. The girls were sent in one at a time by the case manager. After the hair collection, the girls returned to their regularly scheduled classes.

The participants entered the room and were asked to be seated. The validity coordinator explained the hair collection procedure to each participant before beginning the process. The procedure involved standing behind the subject in order to take a hair sample from the "crown" of the head. A hair clip was sometimes used to hold hair out of the way. If the hair was fine or thin or very short, a sample from more than one area of the head was taken. A small lock of hair, visibly equal to one-half inch wide when held flat across the finger, was cut as close to the scalp as possible. The hair sample was then placed into a strip of foil following defined procedures. This foil was placed inside a card that was sealed, signed and dated by the validity coordinator. The card was placed into a plastic pouch which had an adhesive closing to protect the integrity of the hair sample until it reached its testing destination. The hair collection process took approximately three minutes to complete. The samples were kept in a locked cabinet until sent via Federal Express to the hair testing site.

Results

Erosion of Sampling Design

The initial sampling design was changed about half way through the survey/hair collection process. Because of absences during survey administration, attrition of Chrysalis participants, and a higher-than-anticipated refusal rate, the number of hair samples collected was discouragingly small. To increase the number of samples, it was decided by Chrysalis staff and the evaluation team, to open up the hair collection process to all three groups. Following this point, all girls were asked at the time of survey administration if they wished to participate in the validity study.

At the year-end retreat for Program girls, an area was set aside by the validity study coordinator to gather hair samples from girls who had not had the opportunity to participate because they were absent or they were in the group that was not asked initially to participate or in the event that they had changed their mind from when first asked. Case mangers and Chrysalis staff spoke to the girls individually during the course of the retreat to see if they wanted to participate in the validity study. This method also increased the number of hair samples.

In addition, girls who missed the initial survey administration because of absence or other reasons were mailed the survey along with the validity study consent form so they were informed of the study and could participate if they wished. In all, 74 surveys and consent forms were mailed out (36 Chrysalis, 38 Research students). Of these, only six students agreed to participate in the validity study (4 Chrysalis, 2 Research). One girl who was mailed the survey/consent form was at the retreat and chose to participate in the study.

Although these mid-course corrections resulted in a sample size large enough to conduct statistical tests on the results with reasonable power, the abandonment of the original three-group design precluded the unambiguous test of many of the associated hypotheses. These will be classified in the subsequent discussion of the results.

Consenting vs. Non-consenting Students

Since participation in the validity study was voluntary, it is important to examine characteristics of the consenting students to determine whether they are generally representative of project participants as a whole, or are a more "special" group. To the extent that participating girls are different from the project students overall, results of this validity investigation may not be generalizable to the population of young women these project participants represent. Secondarily, if there is more or less representativeness among Chrysalis students than Research group students, it suggests that these results be analyzed separately.

An initial comparison of interest is simply in the relative percentages of Chrysalis versus Research group students who consented to participate in the study. Of the 92 Chrysalis students who were asked to participate, just over half (53%) agreed; while, of the 96 Research students who were asked, less than one-third (31%) agreed to participate. These numbers do not include the 74 students who were asked in the follow-up mailout; nor do they include students who were first asked

for their consent, but after completing their surveys were told they would not need to contribute a hair sample after all (i.e., Group 2 in the initial design).

The differences in these proportions likely reflects the greater willingness on the part of Chrysalis program students to participate in project-related activities. Case managers approached Research group students with the same protocol for participation in the validity study, but the lower level of investment in such activities is not surprising. In and of themselves, these differences in participation rate do not constitute a bias. That is, the 31 percent of Research group students may be an equally representative sample of all of their group as is the 53 percent of Chrysalis students. To address this, we must look at the characteristics of the students included in both groups.

A primary concern in evaluating the representativeness of the consenting sample, as noted above, is in whether students who actively use the substances detected by the hair analysis procedure would be less likely to agree to participate in the study. Secondarily, any differences in prevalence of health risk behaviors between consenting and non-consenting students could threaten the generalizability of the findings.

Two health risk behaviors — self-reported marijuana use and alcohol use in the past 30 days — were explored to address this representativeness issue. Prevalence rates of Chrysalis and Research students who participated in the validity study are contrasted with those rates for the students who refused to participate in the study in Exhibit 3 below. Comparing Chrysalis vs. Research students who did and did not consent to participate tells us whether any bias in the participating sample is essentially the same for the two groups. That is, if heavier AOD users tend to refuse participation in the Research group, is this also true of the Chrysalis group? If one believes that participation in the Chrysalis project lends itself to more cooperation in any related activities (as alluded to above), it may be that this decision is made independently by Chrysalis girls, but Research girls give greater consideration to possible consequences or are just generally less interested.

Also included in Exhibit 3 are the prevalence rates for all Chrysalis and Research students who were included in the Spring posttest for the overall evaluation of the project. These are included to afford the comparison of participation samples with the total groups of Chrysalis and Research group students involved in the project. While the first comparison relates to the equivalence of the Chrysalis and Research samples participating in the validity study, this one assesses the overall representativeness of the participating groups to all those included in the Chrysalis project.

Exhibit 3
Prevalence of 30 Day Alcohol and Marijuana Use
Consenting and Non-Consenting Students
and All Project Students

Consent / Non-Consent	Alcohol Use		Marijuana Use	
	Chrysalis	Research	Chrysalis	Research
Consenting (N=79)	46.9%	40.0%	32.7%	23.3%
Non-Consenting (N=109)	44.2%	42.4%	39.5%	31.8%
All Project Students (N=223)	52.2%	41.2%	40.2%	25.5%

Differences between consenting and non-consenting students in both Chrysalis and Research groups are non-significant for alcohol use, but more pronounced for marijuana use. In both groups, those students who consented to participate report lower prevalence of marijuana use than those who refused — a nearly seven percent difference among Chrysalis students and an eight percent difference among Research group students. This supports the experimental concern that students who use marijuana are less likely to participate in the validity study, but the reluctance is about the same in the two groups.

While Chrysalis and Research group students share this difference between those consenting and refusing to participate in the validity study, their representativeness to the total group shows a different pattern. The higher rates of marijuana use among Chrysalis students as a whole (42.7%) than those that participated in the validity study (32.7%) suggests that they are a lower-using group of girls than the entire Chrysalis group. Results for validity participants and the total project group for Research students are more comparable.

These findings suggest some caution in generalizing the results of the validity investigation to this target group as a whole, but confidence in the comparisons between Chrysalis and Research group students.

Validating Self-Reported Illicit Drug Use

Of the illicit substances included on the *Risk and Resiliency Index*, the hair sampling procedure could sensitively detect use of marijuana, inhalants, cocaine, amphetamines and heroin. Among those

students who participated in the validity study, self-reported prevalence rates of all substances but marijuana were so low (less than 5% per group, indicating one or two students using) that an assessment of the agreement between the hair analysis and self-report would be highly positively biased. That is, when marginal usage is this low, any sort of statistical index of agreement will indicate high agreement, due to the preponderance of negative results.

With this in mind, the validity results reported here will focus on marijuana use. In all, 94 young women participated in the hair analysis process. Of these, 7 submitted hair samples that were too small to adequately analyze, and another 3 students did not respond to the 30-day marijuana use item on the survey. This left 84 Chrysalis and Research students for whom both a valid hair analysis result and a response to this survey item was obtained. Results of the initial comparison of these data are shown in Exhibit 4a below.

Exhibit 4a
Initial Results of Hair Analysis and Self-Reported Marijuana Use

Initial Theshold of Hair Analysis for Marijuana	Result	Self-Reported Marijuana Use (Risk and Resiliency Survey)		Total
		No Use	Any Use	
Physiological Test of Marijuana Use (Hair Analysis)	Positive	3	2	5
	Negative	57	22	79
	Total	60	24	84

Although the results of this comparison are cast in a very simple table, the interpretation can become quite complex. The agreement of the two assessment procedures (self-report and hair analysis) is represented by two cells — those students for whom both assessments found to be users (n=2), and those for whom both found to be non-users (n=57). Combining these two, there is just over 70 percent agreement between physiological and self-reported assessments of marijuana use.

Another approach is to focus on the "user" samples from each procedure. Of the 24 students who reported some use of marijuana in the past 30 days on the survey, only two of them also were detected as positive by the hair analysis. This can be represented as an approximately 8 percent agreement rate. Conversely, of the five students identified positively by the hair analysis, two indicated they had used marijuana in the past 30 days on the survey. This may be expressed as a 40 percent agreement.

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One of the circularities operating within a validity study of this sort is that neither one of the assessment procedures necessarily provides the "true" picture of whether a student has used marijuana or not. Hair testing, as noted in our earlier review of the literature, is a promising technique, but it is not flawless. Self-report surveys, while carefully controlled in the Chrysalis evaluation, are also often questioned. Among other things, this makes it problematic to choose from among the agreement indices described above. That is, if one could be considered the "correct" procedure, it would suggest we calculate the percentage of times the other assessment results agree with it.

Even with this uncertainty, and options for expressing agreement, the overall correspondence between the two procedures is not encouraging. Looking beyond their agreement, and interpreting the marginal frequencies of marijuana use from the two procedures suggests one possible explanation. Of those students included in this analysis, over 28 percent (24 of 84) indicated they had used marijuana on the survey; while the hair analysis procedure detected only about six percent — less than one-fourth of the self-report total. This discrepancy indicates that, either the girls were over-reporting on the survey or the physiological procedure is too conservative. The first explanation is unlikely in that this prevalence rate is comparable to other survey results obtained from other samples in other locales. To explore the second, the RMC Research team consulted with Psychemedics to see if it was reasonable to lower the detection threshold on the hair analysis to determine whether an appreciable portion of the self-reported users who had tested negative on the initial test would test positive with a lower quantity of marijuana evidenced in their hair sample.

Results of this secondary analysis yielded an additional nine students who tested positively at this lower level, and another five who "just missed" at this threshold. Adding the nine to the "positive" category brings the agreement rate among self-reported marijuana users to just under fifty percent. Adding the additional five who "just missed" brings the agreement to about two-thirds. Lending their experience to this, Psychemedics staff were clearly more comfortable with including the positives from the lower threshold than they were with the "just missed" category.

Applying this adjustment to the previous Exhibit 4a reconfigures the table as follows:

Exhibit 4b
Results of Hair Analysis and Self-Reported Marijuana Use After Lowering Threshold of Hair Analysis Test for Students Who Had Reported "Any Use" on the Self-Report Survey

Lowered Theshold of Hair Analysis for Marijuana	Results	Self-Reported Marijuana Use (Risk and Resiliency Survey)		Total
		No Use	Any Use	
Physiological Test of Marijuana Use (Hair Analysis)	Positive	3	11	14
	Negative	57	13	70
	Total	60	24	84

While these results show improved agreement between the two assessment procedures, they are still not terribly impressive from a statistical point of view. Since the hair samples from the self-reported non-users were not retested using the lower threshold, we cannot compute overall agreement indices with any certainty. At best (i.e., if all self-reported non-users still tested negative), the overall agreement index would be 81 percent — comparable to the 79 percent agreement between urinalysis and self-reported marijuana use in a criminal justice population (National Institute of Justice, 1991), and better than many found by Mieczkowski (1990) in his comprehensive review of self-report validation studies. This appears to be a high figure, but one that still indicates approximately one in five students have used marijuana according to one method, but have not used according to the other.

In conclusion, we remind ourselves that this was a highly experimental procedure, using a relatively non-intrusive physiological measure to validate self-reported marijuana use. The literature suggests promise for hair analysis, although it is not yet recognized by the National Institute on Drug Abuse (NIDA) as a valid technique. Other researchers (Harrison, 1995) have pointed out that it is highly preferred to urinalysis due not only to its relatively non-intrusive nature, but also because its window of detection of drug use is so much wider. Given that the secondary analysis results here could yield agreement rates comparable to those found in urinalysis studies, hair analysis may be a reasonable method for use in a school population.

We suspect that there is still much to learn in the implementation of such a procedure, however. Our consultations with the professionals at Psychemedics indicated to us that there are still many key decisions to make in setting standards and criteria for the physiological testing, particularly when

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working with this population. It is reminiscent of the decisions the applied researcher makes in setting acceptable probabilities for Type I (false positive) and Type II (false negative) errors.

We close the report with further reflections on lessons learned in the implementation of this procedure in the context of the Chrysalis project, its staff, and population of participants.

Discussion

Implementation Difficulties

Some of the difficulties involved in the validity study process revolved around confidentiality issues. Access to Chrysalis Program and Research participants' names was not open by RMC Research staff, according to Human Subjects Protection policies mandated by CSAP. This lack of access impeded the hair collection process, but it especially compromised any chance to do follow-up. RMC Research staff had access to participants ID numbers but not their names, while case managers had access to participants names, but not ID numbers. If the validity coordinator (RMC staff) wanted to do any follow-up for absent Program or Research girls, she could not do it without instituting a long and complicated procedure involving PPS evaluation staff and the case managers. Specifically, the validity coordinator would have to call the PPS evaluation staff, giving the ID numbers for absent girls for each school and group, then the PPS evaluation staff would have to call each case manager and tell her who those girls were so they could contact them and arrange a time for them to come in for the study. Then the validity coordinator would have to call the case manger to see when the girl could have the sample done but could not ask for the girl's name. The logistics of doing this for every absent girl were simply not feasible. Program management and RMC evaluation staff agreed that to pursue such a process would strain the cooperative relationship among program and evaluation staff that had been growing so positively over the initial two years of the project.

Another difficulty with the validity study was the large time commitment that was necessary that was made by the validity study coordinator in order to arrange for and complete the hair collection process. Not only was it time consuming to go to each high school, but the coordinator would wait at each school for 20 to 40 minutes before the girls were finished taking the survey and were ready for the hair collection process. Sometimes there were no girls who would choose to participate and so the coordinator's time was not put to effective use. Time was also needed for preparation to get the various hair collection items together and organized; forms and envelopes had to be filled out

with the validity coordinator's name, signature and other pertinent information about each testee.

Girls' Attitudes about Participating

The universal concern of the girls that chose not to participate in the validity study was that the validity coordinator would cut too much of their hair. This was a concern for the girls who did participate, but they were willing to go ahead with the procedure with assurances from the coordinator that only a small amount of their hair would be taken and it would not be noticeable. No other concerns were expressed by the girls.

A few of the girls wanted to know if they could get the results of the test for their own knowledge. One girl wanted the results so in case she got a job with an employer who required drug testing, she could show the employer the results of this test.

Anecdotal Evidence of Use

Several times during the validity study process, study participants told the validity coordinator that they had recently smoked marijuana the night before or several days before the hair collection day. The girls wondered if their recent use would show up in the hair test sample, but they were not concerned if the results were positive. The hair test results were not to be used for any other purposes than the study, and participants knew this, but it was interesting to note that these girls felt free to tell the validity coordinator about their drug use.

Chrysalis project staff reported similar revelations by the girls when they discussed their participation in the validity study. One girl wanted to know if her hair test would show positive results because she had recently been "hotboxing." (Hotboxing is riding in a car with people who are smoking marijuana with the windows rolled up). The girl said she didn't smoke marijuana but wondered if being exposed to the second-hand smoke would give a positive reading on her hair sample.

Only five hair samples of the 94 taken for the study showed positive for marijuana use. With the numerous anecdotal accounts of the girls use and the larger number of positive responses reported on the *Risk and Resiliency Index*, it seemed that there would be more positives than what were reported in the hair analysis.

Our View of the Utility of Hair Sample Technique in School/Educational Settings

Hair analysis was used over 30 years ago to test for the presence of toxic substances in forensic settings and to assess exposure to toxic metals in at-risk populations (Harrison, 1995; Mieczkowski, 1992). And it has been used since the 1970s in detecting the presence of illicit drugs and in validating self-reported drug use.

As stated earlier in this report, hair analysis has been used on adult populations who have been in the criminal justice system or who have been tested at their place of employment. Psychemedics Corporation indicated to us that the current study was their first experience using hair analysis to validate self-reports of drug use for a high school population.

Implementing a hair testing study in a school-based setting had its challenges including establishing confidentiality procedures and obtaining cooperation from enough girls to have a useful sample. It may be that both the participants and the case managers were not adequately informed and/or did not understand the reasons for the study.

It might be feasible to replicate a self-report validity study using hair analysis for other at-risk populations, but the procedures would need to be carefully looked at and refined and implementation time would need to be increased.

In retrospect, a replication of this validity study would (a) spend more time explaining the importance of the study to case managers in the hopes this would improve student participation; (b) involve more research staff in carrying out the logistically demanding process of data collection; and (c) insist on access to students' names (confidentiality still assured) so that followup procedures could be implemented and the integrity of the initial design be maintained.

With all of these caveats, RMC staff view this method of validation as having promise in a school-based setting. Secondary analysis of the samples, as reported earlier, yielded more useful results; and implementation lessons learned, if acted upon, could make the conduct of such a study more feasible.

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APPENDIX C

Evaluation of Supplementary Grant:

HIV/AIDS Education Project

Evaluation of Chrysalis HIV/AIDS Education Project

Purpose of the Project

The prominent role schools play in providing effective HIV/AIDS prevention education is well documented in research literature and by state and national surveys. According to the 1995 Oregon Youth Risk Behavior Survey (Oregon Health Trends, 1996), a majority of students identified school as their primary source for HIV/AIDS information and believed that increased knowledge about HIV/AIDS had a positive impact in reducing high-risk behaviors. Public schools in Oregon are mandated by law to incorporate HIV/AIDS instruction into the curriculum at all grade levels. Portland Public Schools adopted a policy statement on HIV/AIDS in 1988 and the topic is covered as part of the comprehensive and age-appropriate education about sexuality provided by the district. Project Chrysalis demonstrates the key role that schools can play in coordinating comprehensive services for high-risk student populations. As part of these comprehensive services, the project provides an excellent opportunity for further emphasizing this important health issue to program participants who constitute a particularly vulnerable population.

Approximately one in 250 people in the United States is infected with the HIV virus. HIV/AIDS is spreading rapidly among teenagers and young children, thus identifying teenagers as one of the populations most at risk for contracting the virus. Typical adolescent attitudes of invincibility and the activities in which many teenagers engage dramatically increase their risk for acquiring HIV/AIDS. Since the Chrysalis program participants are a population vulnerable to risky sexual behavior, it is important that the serious nature of HIV/AIDS be underscored by giving them extra resources and information. The HIV/AIDS curriculum supplement is a way that this population has received the extra emphasis regarding this topic.

The research literature cites a broad array of harmful effects resulting from childhood sexual, physical, and emotional abuse and neglect (Downs, 1993). These effects include earlier involvement in risky sexual behaviors, higher rates of teen pregnancy, a greater risk of alcohol and other drug involvement, and a variety of developmental difficulties (Downs, 1993; Kendall-Tackett, Williams & Finkelhor, 1993). Chrysalis students have reported significantly higher prevalence rates of all of these behaviors than their peers across Oregon and the nation (Gabriel, Laws, Mitchell & Richen, 1995).

The powerlessness and stigmatization resulting from abuse often leads many survivors to view the world as an unsafe place where they have little control over the events that happen in their lives. The developmental delays found among abused individuals may include muted sensory-perceptive responses, negative self-image, difficulty in trusting others, or in forming intimate relationships, inability to distinguish between thought and action or between feeling and doing, cognitive and motor dysfunctions, language disabilities, speech and hearing deficits, and personal and social skill deficits. As a result of their histories of personal trauma, these young women are less likely to absorb the HIV/AIDS-related education provided in their regular classroom. This evidence provides a further rationale for Chrysalis participants benefiting from a HIV/AIDS curriculum tailored to their backgrounds, problems and learning styles.

Overview of Project Activities

HIV/AIDS Curriculum

The HIV/AIDS prevention education specialist worked with a variety of public and private community-based organizations involved in HIV/AIDS prevention. One key group that contributed its expertise to the program was the Cascade AIDS Project (CAP). The HIV/AIDS specialist worked closely with CAP to develop a comprehensive and informative educational experience for Chrysalis participants. They not only drew upon their own expertise, but used components from existing HIV resources and curricula (e.g. *Reducing the Risk: Building Skills to Prevent Pregnancy, AIDS: The Preventable Epidemic Curriculum, Be Proud Be Responsible, and Power Moves).*

During the school year, the Chrysalis Program group received four separate sessions devoted to HIV/AIDS education. The sessions were designed to provide a number of concrete, interactive activities and lessons on the following topics:

- Classroom climate setting;
- What is HIV, and what are HIV high-risk behaviors;
- HIV Testing;
- Abstinence, sex and protection from pregnancy, HIV, and sexually transmitted diseases;
- Refusal and negotiating skills;
- Delaying tactics, avoiding high-risk situations; and
- Accessing and using informational resources for HIV protection.

Most of these were conducted by student trainers from the Cascade Aids Project who delivered a HIV/AIDS education program called the "Teen to Teen" Workshop. The workshop was led entirely by the two student volunteer trainers who presented the information using a variety of interactive activities that covered the above mentioned topics. A unique aspect of this workshop was in having the delivery and responsibility for the program given to teenagers. The trainers made the information interesting to the participants and gave them many opportunities to ask questions and clarify information covered. This type of presentation is thought to be effective because teens are more comfortable discussing sensitive issues surrounding sexuality with their peers.

Another component of the presentations was having speakers who were HIV positive talk to participants. A powerful component of the program, these speakers spoke about their experience of getting the HIV virus, and how the virus has dramatically changed their lives. In addition to having the HIV virus, the speakers were victims of childhood sexual abuse. Their stories gave a personal focus to a virus that doesn't seem a real threat to many young people because they don't think it can happen to them. As one of the speakers poignantly stated, "HIV has really taken over my life."

The program was delivered to Chrysalis Research group students somewhat differently. Instead of four separate sessions, they received the HIV/AIDS curriculum in a single, all day retreat format. Each retreat accommodated students from two different high schools and was conducted at a site away from their schools. The Research group received the same comprehensive educational program as the Program group. To program staff, presenting all the information at once seemed to be an effective method of instruction as it made a more powerful impact on the participants.

Training of Chrysalis Staff

HIV/AIDS is a topic that comes up regularly for Chrysalis students. In order for case managers to be prepared to answer students' questions and concerns, the HIV/AIDS prevention education specialist met periodically with each of the case managers to help them understand the issues surrounding HIV/AIDS. This kind of assistance gave the case managers information and guidance that helped them better serve the Chrysalis population.

Two case managers had the opportunity to attend several HIV/AIDS training sessions offered during the school year. The training sessions, sponsored jointly by the Portland School District and the Oregon Department of Education, provided instruction in HIV/AIDS prevention curricula. These

intensive workshops covered all aspects of HIV/AIDS prevention education, specifically focusing on skill building lessons that participants could use in classroom and/or other educational settings.

All the case managers attended the student HIV/AIDS education program and learned important information and skills about HIV/AIDS prevention. They were able to integrate this information into their support group sessions with Chrysalis students.

Evaluation Activities

Surveys, pre & post

The primary tool for assessing increased knowledge and preventative attitudes about HIV/AIDS among Chrysalis participants was a survey developed by the HIV/AIDS education specialist and the evaluation staff. The 17 item instrument was adapted from survey instruments developed by Project Action, Center for Health Research and HIV Positive Speakers in the Schools, Portland State University. The first seven questions of the survey deal with how the HIV/AIDS virus is transmitted (knowledge); the last 10 questions ask about the change in intentions of behavior to protect against HIV/AIDS (attitudes).

A pretest was administered to the Chrysalis Research group prior to their attending the one day HIV/AIDS retreat workshops. Of the 181 Research girls, 81 (45%) participated in the all day retreats and took part in the survey. There was insufficient time to administer a pretest to the Program group as their HIV/AIDS training had taken place in separate sessions throughout the school year and the survey instrument was not prior to the first session.

The Chrysalis Program group of 189 students were offered four, one hour sessions of HIV/AIDS instruction throughout the school year. Of the 189 girls, two-thirds attended at least one session, and about 40 percent of the girls attending three or four sessions. One third of the girls (n=64) attended none of the sessions. The survey was mailed to both Research and Program groups in June of 1996. Of the 270 surveys mailed, 160 surveys were returned (59%). The returned surveys represented 79 Program participants and 83 Research participants.

Differences in the administration of the survey and in the delivery of the HIV/AIDS curriculum are reflected to some extent in the results of the surveys. Those differences include:

- The Program group received four separate sessions of the HIV/AIDS prevention curriculum throughout the school year in their high school setting, whereas the Research group received the entire HIV/AIDS curriculum in one-day retreat workshops.
- The Research group was administered a pre-and post test, while the Program group was given just the post test.
- More Research girls (45 percent) received the entire curriculum compared to girls in the Program group. Of the Program group, about one in five girls (21 percent) attended all four sessions.
- Sixty-two percent of the Research girls (N=50) completed both a pre- and post test.

Results and Discussion

The HIV/AIDS education supplement was added to the existing Chrysalis program in order to test the hypothesis that delivering a HIV/AIDS education curriculum within an existing prevention program would be more effective for participants than providing a HIV/AIDS curriculum that was outside of a prevention program. To test this hypothesis, the Chrysalis Research group was used as the nonprevention treated comparison group.

The initial implementation design for the HIV/AIDS curriculum was for both Program and Research participants to have the curriculum presented in four separate sessions during the school year. The Chrysalis Program students had prescheduled Open Sessions which made it convenient to insert the curriculum into those time slots. Scheduling four sessions for the Research group was more of a challenge as they had no regular meeting times. Program staff decided that it would be more efficient to use an all day retreat format for the Research girls to resolve the scheduling challenge.

The retreat format turned out to be the most effective way of delivering the HIV/AIDS curriculum. The HIV/AIDS curriculum could be presented all at one time and thus the girls who attended did not miss any of the important components of the program.

With this change in implementation and the positive results that change brought to the Research girls in the form of more efficient and effective delivery of the curriculum, assessing the differential effectiveness of a HIV/AIDS curriculum delivered within an existing prevention program compared to a nonprevention treated comparison group could no longer be done.

The first seven survey items were statements designed to measure knowledge about HIV/AIDS contagion and prevention. In Table 1, the percent of students giving the most knowledge-appropriate

response (either "strongly agree" or "strongly disagree," depending upon the item) is given for each item. The percentage of Chrysalis Program students receiving from two to four curriculum sessions (i.e. sufficient dosage) is also displayed. When the data are examined by dosage level, the Program girls who attended two or more HIV sessions had improved outcomes and gave a higher percentage of appropriate responses were given in five of the seven questions when compared to the Research girls. If the results of the survey responses are compared between all Chrysalis students and Research students, then a higher percentage of most appropriate responses were found in the Program girls for only three of the seven questions—about willingness to hug or kiss a friend with AIDS, and disagreement with the statement, "People who use condoms during sex don't trust the person they're with." Thus, dosage appears to be an important factor in showing a positive impact on the girls' knowledge regarding HIV/AIDS and its prevention. For both groups, there seemed to be greatest understanding that it's okay to hug a close friend who has AIDS, that teens engaging in sex without using a condom are at risk of getting HIV, and using condoms during sex does not imply a lack of trust in the person you are with.

Table 2 shows the remaining ten survey items which measure protective behaviors against HIV/AIDS. Again, when dosage level was examined, Program students who participated in two or more HIV/AIDS sessions showed a higher percentage of appropriate responses to four of the ten survey questions than the Research girls. Four additional questions showed percentages about equal to the Research girls, and only two questions showed lower percentages. Whereas, when not looking at the dosage level percentages, research girls were more likely to give the most appropriate response--doing so for seven of these items.

The only statistically significant difference between the two groups was found on a key item which asked for an estimate of how many friends use condoms when they have sex. After excluding girls who responded "Don't Know," only 39.39% of Program girls (40.38% with sufficient dosage) responded with "All or most of my friends" compared to 58.73% of Research girls.

The Program and Research comparisons featured in Tables 1 and 2 were based on post test scores only, assessing students' knowledge and attitudes after they had received the HIV/AIDS training. Within the Research group, we had the opportunity to document the change in the outcomes from the pretraining survey.

A comparison of pretest and posttest responses for the Research girls shows substantial increases

in appropriate responses following exposure to the curriculum. An item that asked whether or not the respondent could apply a condom even in the "heat of passion" showed the only significant difference with 33.75% of pretest respondents indicating they could compared to 46.15% of posttest respondents. Other large increases in appropriate responses were for items regarding fear of kissing someone with AIDS, amount of risk when having sex without a condom, amount of protection provided by careful choice of partners, and amount of autonomy felt when dealing with sexual partners. For only two items did the percentage of appropriate responses decrease between pretest and posttest, and these decreases were minor, and not statistically significant.

Table 1

Percentage Making the Most Appropriate Response to Knowledge Questions on Posttest

Survey Item	All Chrysalis Students	Chrysalis Students With Sufficient Dosage*	Research Students Received Entire Curriculum in Retreat Format
1. I would feel comfortable hugging a close friend who has AIDS.	Strongly Agree 74.03%	Strongly Agree 79.87%	Strongly Agree 66.27%
2. If I thought my friend had AIDS, I would be afraid to give that friend a kiss.	Strongly Disagree 40.79%	Strongly Disagree 43.37%	Strongly Disagree 37.35%
3. It's okay for teenagers to have sex without a condom if they know each other well.	Strongly Disagree 53.25%	Strongly Disagree 56.67%	Strongly Disagree 65.06%
4. Teenagers are at risk of getting infected with HIV if they engage in sex without a condom.	Strongly Agree 75.33%	Strongly Agree 74.71%	Strongly Agree 83.13%
5. It's okay to have sex without a condom because your chance of getting infected with HIV is very low.	Strongly Disagree 80.52%	Strongly Disagree 85.67%	Strongly Disagree 85.54%
6. If teenagers are careful about choosing sexual partners, they won't get infected with HIV.	Strongly Disagree 48.05%	Strongly Disagree 61.89%	Strongly Disagree 54.22%
7. People who use condoms during sex don't trust the person they're with.	Strongly Disagree 68.83%	Strongly Disagree 81.95%	Strongly Disagree 67.47%

*Dosage = Attended 2-4 curriculum sessions

Table 2
Percentage Making the Most Appropriate Responses to Behavior Questions on Posttest

Survey Item	Chrysalis		Research
	All Chrysalis Students**	Chrysalis Students** with Sufficient Dosage***	Received Entire Curriculum in Retreat Format
8. In general, when you have sex, how often do you use a condom?	Every time or Almost every time 52.17%	Every time or Almost every time 56.11%	Every time or Almost every time 51.72%
9. If you *wanted* to use a condom every time you have sex, how sure are you that you could?	Extremely sure I could 77.05%	Extremely sure I could 84.03%	Extremely sure I could 80.60%
10. In the *next three months*, how likely do you think it is that you will start using a condom every time you have sex?	Extremely sure I will 51.92%	Extremely sure I will 61.31%	Extremely sure I will 45.76%
11. How many of your friends do you think use condoms when they have sex? *	All or most of my friends 39.39%	All or most of my friends 40.38%	All or most of my friends 58.73%
12. I can put a condom on my partner/myself, even during the heat of passion.	Very sure 60.78%	Very sure 59.05%	Very sure 60.00%
13. I can talk to my partner about using a condom, even if I don't know their feelings about condoms.	Very sure 76.36%	Very sure 77.14%	Very sure 80%
14. I can refuse to have sex with my new partner if they won't use a condom, even if I really like them.	Very sure 75.44%	Very sure 76.36%	Very sure 79.03%
15. What would you say are your chances of getting HIV virus during the next 12 months?	Very unlikely 75.68%	Very unlikely 82.84%	Very unlikely 84.15%
16. How much do you feel you can do to keep from getting the HIV virus in the next year?	A lot 86.84%	A lot 93.12%	A lot 89.16%
17. Have you done anything in the past month to help decrease your chances of getting HIV?	Yes 72.00%	Yes 75.66%	Yes 81.93%

**Excludes program girls who don't have sex
***Dosage = Attended 2-4 curriculum sessions

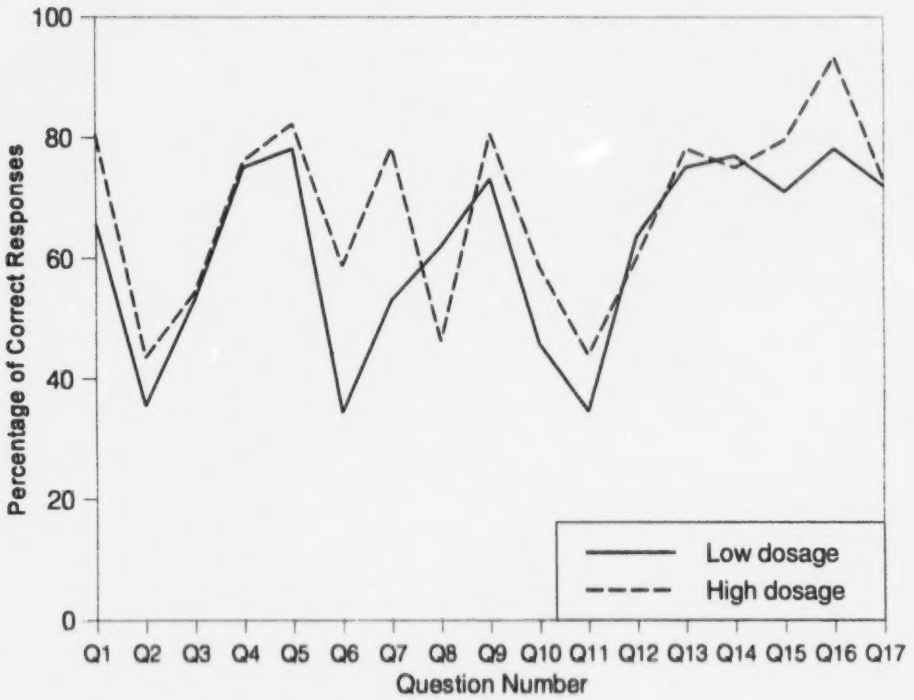
When comparing Chrysalis Program girls to Research girls, survey responses showed that knowledge about HIV/AIDS contagion and prevention and intention to change behavior to protect against HIV infection was equal to and often times higher for Program girls who had attended between two to four curriculum sessions than Research girls who had received the entire curriculum at one time (see Figure 3 below).

Overall, both the intervention and control groups benefited from the program, but the control group received the benefit of more effective implementation of the curriculum. In retrospect, the curriculum needed to be delivered the same way to both groups to yield a valid comparison of effectiveness.

Figure 3

Program Girls Only

(low dosage = 0 or 1 session; high dosage = 2, 3, or 4 sessions)



APPENDIX D

Evaluation of Supplementary Grant:

- Media Literacy Project

Chrysalis MEDIA: Media Education Demonstration In Action Project

Purpose of the Project

Chrysalis case managers report that a wide range of problems related to poor body image, low self-esteem, the lack of a strong sense of individual identity, and deep concern about how they are suppose to act in relation to both male and female peers are pervasive among the young women participating in Chrysalis. For example, eating disorders are common and these can relate to other health risk behaviors. Many who smoke cigarettes are reluctant to quit because they believe they will gain weight. Chrysalis project evaluation results indicate that more than 60 percent of these young women are trying to lose weight, some by unhealthy methods (diet pills, vomiting).

The issues observed by the case managers are consistent with the research literature, which cites a broad range of harmful effects resulting from childhood sexual abuse and other forms of maltreatment, including greater risk of ATOD involvement, school failure, earlier involvement in risky sexual behaviors, teen pregnancy, and a variety of developmental difficulties (Finkelhor and Browne, 1987). The powerlessness and stigma associated with abuse tend to drain the world of sense and meaning. As a result, these students often become "passive actors, who do not think they can help themselves, make choices, or take action that will make a difference" (Boyer and Fine, 1992). Studies in the prevention field of risk and resiliency factors among high-risk youth have emphasized the importance of opportunities to exercise personal responsibility and for meaningful involvement in their schools and communities (Benard, 1991; Wehlage, 1989). The Chrysalis MEDIA Project was designed to empower students to think critically about the information they receive in a multimedia society and the decisions they make daily based on influences such as advertising and other media. The involvement of Chrysalis students in actually using the media to educate their peers and the wider public was expected to be a highly empowering experience. The chance to work directly with professional women who are working as film makers, educators, and actresses was also designed to encourage participants to consider various careers and the skills required to succeed in them.

The evidence is clear that the media "message environment" — encompassing television, movies, the news, magazines targeted to specific populations such as female teenagers, advertising — has powerful, subtle, and often negative impacts on feelings, attitudes, and behaviors which are associated with ATOD use and other correlated risk factors (e.g. Wallack, 1985; Resnick, 1990).

The literature on effective mass media campaigns and communications approaches also cites the importance of customizing presentations for various subgroups such as adolescent females (e.g., Pierce, 1993; Maher, 1992; & Bandy et al., 1983). Effective prevention campaigns need to present factual information about the lifestyle, physiological, emotional, and legal consequences of ATOD use (Mayton et al., 1990, Flay et al., 1989).

Three of the Chrysalis Open Sessions were devoted to teaching the skills needed to identify and critique the messages various media disseminate regarding women (including adolescents and women from various cultural and socioeconomic groups), and the impact of these messages on self-image, use of ATOD and other unhealthy behaviors.

Overview of Project Activities

The MEDIA project consisted of three major activities or components: training sessions for all Chrysalis Program students during the school year; a production workshop for a select group of ten students during the summer; and a proposed training retreat for ten Chrysalis students to develop an educational program for middle school students.

Media Literacy Training

Three, one-hour open sessions were offered during the school year for all Chrysalis Program participants by a media specialist hired for the year. The sessions, held at the twelve participating high schools, examined the following areas:

- Gender roles and stereotypes (including attitudes toward various cultural groups and specific female populations — disabled, elderly, or poor women, for example) found on television and in other media targeted to female adolescents;
- How to "read" an advertisement and other media in terms of the underlying message being disseminated; and
- Fact vs fiction in the media — encouraging students to become analytical and critical thinkers.

Participants were encouraged to keep journals recording their observations of the content and form of various media messages. This activity was used to spur discussions and counter the tendency to be unquestioning consumers of media such as television and movies, whose rapid-fire images prevent active interaction or questioning by viewers of what they see and has on the screen.

The media literacy activities provided during the regular school year also benefited the Chrysalis case managers and one or two high school teachers responded with an interest in learning how to integrate the subject matter into their classroom curricula effectively.

Media Production Workshop

Ten Chrysalis youth were recruited to apply what they had learned about media literacy during the school year to designing and producing a 30-second animated public service announcement (PSA) and a three-minute videotape. The diverse group of students attended a two-week media literacy workshop in June 1996. The workshop was led by two professional female animators/ filmmakers from the Northwest Film Center's Video/Film Maker-in-Schools Program and by other Chrysalis staff.

The use of animation allowed participants to avoid confidentiality issues while addressing important and potentially highly personal subject matter in a creative and visually arresting manner. The content and form of the two products was determined by the participants who used the animated film format to address the issues of media influence, ATOD use, gender and abuse.

The project was a collaborative work of all the students. The theme and story line of the PSA, "Fight Girl Poisoning," was created and developed through consensus by the group. Each person had a role to play in the production and was responsible for getting their work done in the time frame allotted. Some of the girls drew the dozens of pictures needed for each frame of the PSA. Other girls were responsible for developing the script and the audio portions of the video.

The three-minute video, "Girl Power," required each girl to develop a small mini-story about an ATOD issue that was important to her, draw the pictures and provide the script and audio for their piece. Each day was full of acquiring new knowledge and skills. The participants learned what animation was, what it entailed and how to apply that knowledge to the development of their own animation work. They were introduced to a variety of film equipment and how to use it.

An important aspect of the workshop was the commitment that each participant was willing to show during the two week course. All the young women were required to attend the workshop every day and to arrive on time. This kind of commitment is important as the project needed everyone's input and work. Otherwise, the project would not have succeeded as intended. This commitment of their time was also significant because many of the girls had attendance problems in the past school year.

Intended Follow up

Pending the acquisition of additional funding resources, a training retreat is planned in which ten interested Chrysalis high school girls will develop a presentation to accompany the "Fight Girl Poisoning" PSA and offer this program to middle school health classes. The proposed two and one-half day retreat will involve Chrysalis Project staff and a professional actress from the Artists-in-Education program operated by Young Audiences of Oregon who will coach the students and staff on how to design and deliver an effective education presentation that will reinforce and build on the material covered by the three-minute animation videotape. As part of the retreat training the PPS Television Services Department will arrange for video-taping equipment to be available, so that the students can review, critique, and refine their presentations.

During the 1996-97 school year, the Chrysalis students who attended the retreat will deliver the presentations and show the animated "Fight Girl Poisoning" in the middle school health classes. The students will also help arrange other opportunities to air the public service announcement and encourage new Chrysalis participants to become involved in educating their middle school peers.

Evaluation Activities and Results

The media literacy curriculum and the two-week workshop were designed to increase students' skills, knowledge, and attitudes related to the content and form of media messages and their impact on self-image, ATOD use, and health issues. It was anticipated that the media literacy training would empower youth to better evaluate the impact of visual/print images on women of various cultures.

Process and outcome evaluation activities included structured observations and interviews of participants, survey administration and review of instructor notes and student evaluations. All of these activities were conducted to determine to what extent the MEDIA Project had accomplished the desired effects on the target population.

Program Observations: Two-week Media Workshop

Observation of the media workshop was done by evaluation staff during the two-week workshop. On the day of the observation, workshop participants were busy creating the pictures and developing the script for the PSA. All girls were actively engaged in their tasks and were thoroughly enjoying

the experience of working together on such a creative endeavor. The two professional filmmakers from the Northwest Film Center moved about the room, assisting girls with the various tasks they were doing, answering questions and directing the next steps toward completion of the PSA.

The "storyboard" (ie. story line) for the PSA the girls created was posted on the workshop walls so the girls and staff could refer to it to keep track of what they were working on and what needed to be accomplished next. Some girls were occupied with doing the numerous drawings required for the animated PSA. Others were assigned the task of making title cards for the video. Another group worked on cutouts that were used for the animation in addition to the drawings. "Twenty-four frames per second" seemed to be the words that came out of everyone's mouth at some time during the course of the day. It takes twenty-four pictures to make one second of film so the number of pictures required for the thirty second PSA was *720*. Each of these pictures and title cards had to be filmed which added additional time to a tight schedule. On the day of the observation, the script and audio portions were just beginning to be developed and would later be recorded by the girls.

If the girls were not working on the PSA, they were working on their "flip books". The flip books were each girls' contribution to the three minute video. They developed a message about an ATOD issue of concern to them that they wanted to convey and then drew their ideas and wrote a brief script about it. The flip books are a series of pictures that when flipped through, create moving images. These flip books were time consuming because it took a lot of work to draw the required pictures to create the animation. Each flip book was filmed painstakingly using a variety of sophisticated film equipment that the girls were taught to operate.

There was some tension among participants. This observation was confirmed later in the structured interviews with participants and in the review of student evaluations. The tension was created in large part by the short time frame the group had to complete the two videos. There was a lot of information and skills for instructors to teach which required a lot of attention and commitment by the participants. This naturally created stress and tension among and between instructors and students. The tension did not impede the progress of the workshop and did not carry over to how the participants felt about the workshop experience.

Program Observations-Video Premiere

Project Chrysalis held a special showing of the PSA and short video the girls developed in the media

literacy animation workshop for participants, friends and family and staff. It was held at the Northwest Film Center's auditorium, next to the Portland Art Museum, in downtown Portland. The evening program consisted of welcoming workshop participants and their family and friends and then showing a slide presentation of the girls hard at work on their project during the two week workshop. The PSA, "Fight Girl Poisoning" and the film, "Girl Power" were shown on the big screen which awed and impressed not only the workshop participants but other members of the audience as well. The pride that the girls and the rest of the audience felt about the workshop results was palpable. Each girl was given her own copy of the PSA and film as well as a special award for her individual contribution to the workshop. A reception followed the premiere where attendees could enjoy refreshments, visit together and discuss and praise the efforts and accomplishments of the media workshop participants.

Instructor's Notes

Chrysalis staff kept a journal of the daily activities of participants during the workshop. As recorded in the notes, a good portion of the first week of the workshop was used to familiarize the girls with the process of animation as well as brainstorming, discussing and writing down the messages and concepts the girls wanted to convey through the PSA and the three minute film. As mentioned earlier in this report, attendance by the girls was important for the success of the project so the staff kept track of the girls attendance and reported that nearly all the girls had 100 percent attendance.

During the course of the workshop, Chrysalis staff would open the workshop with checking-in to see if there were any concerns, problems or other information they or the girls needed to discuss. At the end of the day, staff would debrief about how the day went , make any announcements that were necessary and talk about what needed to get accomplished.

Participant Interviews

Two girls who participated in the summer media workshop were interviewed by evaluation staff to get a more in depth view of their experience in the workshop (see interview questions at end of this report). Both girls enjoyed participating in the workshop. They found the learning experience both fun and interesting. The girls felt that the workshop needed to be longer because of the amount of work that needed to be done. The lack of time created a great deal of stress and tension among the participants and staff which they both said was the most difficult thing to deal with in the workshop.

The girls were asked if they had applied what they had learned in the media literacy classes during the school year to what they did in the workshop. They said that the media classes gave them the background information about how the different types of media portray women. One interviewee stated that she could really see the difference in how men and women are portrayed differently by the media. She wanted to create a PSA in the workshop that would be taken the same way by both males and females, in other words, the message conveyed would be clear to both genders.

The girls felt proud, for themselves and for the other girls, about the end results of the PSA, "Fight Girl Poisoning" and the three minute video, "Girl Power." As one girl said when she saw the final results of her work, "That's mine. I did that."

Asked what the overall message of "Fight Girl Poisoning" was, one girl stated that the PSA shows that "we need to stop the negative images that girls get about their minds and bodies — that they need to be themselves." The young woman went on to say that "if the commercial [PSA] gets to one girl or guy who needs it, that makes all the difference in the world."

Surveys

Pre- and post test surveys were administered to participants who attended the media literacy open sessions. A total of 108 surveys were completed by participants with pretest surveys numbering 72 and post test surveys numbering 36. Of the three sessions offered the Program group during the school year, 60 percent (n=114) of the 189 Chrysalis students attended at least one of the sessions. About one in eight (12 percent) of the Program girls attended all three sessions. Since the surveys were not linked to a project identification number, these participation differences could not be related to any differences in survey responses.

Discussion and Summary of Major Findings

The first 13 questions on this survey asked the participants to rate their knowledge pertaining to such things as television advertising and public service announcements and to rate their ability to recognize distortion of truth, manipulation, and biases found in the media. These results are given in Table A. Except for one question, "How is your ability to recognize media content that may be biased for or against sexual, ethnic or cultural groups?," a comparison of responses consistently shows an increase in the percentage of participants who rate their skills and knowledge as "Very

Good" from pretest to posttest. Statistically significant increases in the percentage of "Very Good" responses occurred when participants were asked to rate a) their skills as a critical viewer, b) their knowledge of how to produce a video message, and c) their ability to communicate prevention messages to the public. The increase in "Very Good" responses was also nearly significant for the ability to recognize media marketing to ethnic groups between pretest and posttest. In addition, the number of participants who responded "Don't Know" to each question lowered dramatically from pretest to posttest, indicating that familiarity with the issues had been greatly enhanced.

Table A

Percentage Responding "Very Good" and "Don't Know" on Pre and Posttests

Item	Very Good		Don't Know	
	Pre	Post	Pre	Post
1. How are your skills as a critical viewer of television?	19.44%	27.78%	31.94%	25.00%
2. How are your skills as a critical viewer generally? *	19.44%	33.33%	33.33%	8.33%
3. How good is your understanding of media influences directed towards teenagers and women?	34.72%	40.00%	18.06%	5.71%
4. How is your ability to recognize differences between fact and fiction in commercial advertising?	59.72%	63.89%	6.94%	0.00%
5. How is your ability to recognize media content that may be biased for or against sexual, ethnic or cultural groups?	58.33%	47.22%	11.11%	5.56%
6. Your knowledge of the purpose of a public service announcement.	36.11%	47.22%	18.06%	8.33%
7. Your knowledge of how to produce a video message. *	15.49%	25.00%	45.07%	11.11%
8. Your ability to judge media facts from fiction.	30.00%	38.89%	11.43%	5.56%
9. Your ability to recognize sex-role stereotypes in advertising.	53.52%	66.67%	9.86%	0.00%
10. Your ability to recognize media marketing to ethnic groups.	30.99%	55.56%	19.72%	5.56%
11. Your ability to be a critical viewer of television.	33.80%	44.44%	28.17%	8.33%
12. Your ability to communicate prevention messages to your peers.	38.03%	41.67%	19.72%	11.11%
13. Your ability to communicate prevention messages to the public. *	28.17%	41.67%	26.76%	2.78%

* $p < .05$

Table B summarizes the remaining ten statements which measured attitudes and opinions about community exposure to drug and alcohol abuse information through the media and the need for this type of exposure in the Portland area. The posttest showed a sharp increase in the percentage of participants who agreed with statements indicating that Portlanders have access to friendly and humane public services and support media campaigns aimed at preventing drug and alcohol abuse and showed a moderate increase in support for additional funding for alcohol and drug prevention programs in schools.

Only about one third of pretest participants thought that Portlanders have appropriate media exposure to information about alcohol and drugs, and this rate remained the same for the posttest. A low percentage (about 18%) agreed with the statement, "Using illegal drugs is okay if you don't get addicted" in both pretest and posttest, and a high percentage (slightly over 70%) on both tests thought more money should be spent on public awareness of substance abuse issues.

In most cases, the percentage of participants who indicated they were "Undecided" on the issues presented by these questions decreased from pretest to posttest. The increases occurred on two statements about the ease of purchasing cigarettes or alcohol by minors in our community and two statements about the need for additional money to pay for more youth activity programs and more law enforcement.

Table B

Percentage Agreeing, Disagreeing, or Undecided on Pre and Posttests

Item	Agree		Disagree		Undecided	
	Pre	Post	Pre	Post	Pre	Post
14. In general, the citizens of Portland have access to friendly and humane public services.	41.67%	62.86%	11.12%	17.14%	47.22%	20.00%
15. In general, the citizens of Portland support media campaigns aimed at reducing or preventing alcohol & drug use.	49.30%	73.53%	19.72%	11.76%	30.99%	14.71%
16. In general, the citizens of Portland have appropriate media exposure about alcohol and drugs.	32.57%	34.28%	29.58%	31.43%	38.03%	34.29%
17. It's easy for minors to buy cigarettes in our community.	94.45%	82.86%	2.78%	2.86%	2.78%	14.29%
18. It's easy for minors to buy alcohol in our community.	72.22%	61.76%	18.06%	8.82%	9.72%	29.41%
19. Using illegal drugs is okay if you don't get addicted.	18.31%	18.18%	54.93%	57.57%	26.76%	24.24%
20a. Additional money should be available for more public awareness of alcohol and drug problems.	70.84%	73.53%	8.33%	5.88%	20.83%	20.59%
20b. Additional money should be available for more community youth activity programs.	81.95%	82.36%	4.17%	2.94%	13.89%	14.71%
20c. Additional money should be available for more law enforcement.	53.52%	54.54%	28.17%	21.21%	18.31%	24.24%
20d. Additional money should be available for more alcohol/drug prevention programs in schools.	69.44%	78.78%	15.27%	6.06%	15.28%	15.28%

Media Literacy Animation Summer Workshop
June 17-28, 1996
Interview Questions

What was the most difficult or demanding part of participating in this workshop?

What were some of the useful things you learned from participating in this workshop? (i.e. knowledge and/or skills about animation film making; knowledge and/or skills about media literacy.)

Do you think that these skills, knowledge, etc. will be useful to you in the future? If so, how? (Give examples).

The thing I liked best about the workshop experience was_____.

The thing I liked least about the workshop experience was _____.

Did you apply what you learned in the media literacy classes you attended during the past school year to what you did in this workshop? If so, in what way?

How well did this workshop match your expectations of it? In other words, did it turn out to be what you thought it was going to be or was it quite different?

What was the overall message of the PSA you contributed to? Do you think that message came across in the PSA?

How did you feel when you saw the end results of your PSA on the "big" screen? (Were you proud, disappointed, satisfied, etc.?)

Did you feel that your work on the PSA was worthwhile? In what ways?

What did you think about the end results of the film, Girl Power that was created from your flip books?

APPENDIX E

Evaluation Instruments, Year 2

- Intake Form
- Needs Assessment
- Case Manager Contact Log
- Chrysalis Activity Log
- Risk and Resilience Index
- Case Study Interview Protocols
- Girls Empowerment Questionnaire (pre and post)
- Challenge Course Questionnaire

Chrysalis INTAKE FORM

Student _____ Date _____

Student I.D.# ☐☐☐☐☐☐☐☐☐ School/Program _____ Date of Birth_____

Age ____ Grade ____ Ethnic Group _____ Sexual Orientation: ❑ Heterosexual ❑ Lesbian ❑ Bi-sexual

Student Phone_____ Student Address _____

Case Manager _____ Phone _____

All participants must have experienced some kind of abuse.

Type of Abuse: (check any)	❑ Physical	❑ Sexual	❑ Psychological	1-5
Was Abuse Reported?	❑ Yes	❑ No	❑ Don't know	
Date Abuse was Reported: _____		Location (City/State)_____		
Current Status: (check one)	❑ Inactive	❑ Active		
		CSD Caseworker_____	Phone_____	

STOP here if none of the above categories apply.

Students must have two (2) additional risk factors from the list below to be eligible to participate in this project.

Check all that apply:

6	❑	Child of substance abuse		
7	❑	Uses alcohol/drugs or past history of AOD use		
8	❑	Smokes cigarettes/uses tobacco		
9	❑	Violent or other delinquent behavior		
10	❑	Past/present involvement in juvenile justice system		
11	❑	Gang member or involved with gangs		
12	❑	Witness to violence		
13	❑	Victim of domestic violence		
14	❑	Victim of school violence		
15	❑	Know someone who was murdered		
16	❑	Suicide tendencies (current thoughts or past attempt)		
17	❑	Severe emotional problems		
	❑		Parent with severe emotional problems	18
	❑		Learning disabilities/special education	19
	❑		Physically disabled or in chronic pain	20
	❑		Pregnant	21
	❑		Teen parent # and gender of children:_____	22
	❑		At risk for HIV or other STDs	23
	❑		Runaway/out of home placement	24
	❑		School dropout/chronic school failure	25
	❑		Economically disadvantaged/homeless	26
	❑		Parent involved in criminal justice system	27
	❑		Parent incarcerated	28
	❑		Other_____	29

Referral Source:

❑ Chrysalis Case Manager	❑ School Counselor	❑ Teen Parent Program	❑ Parent	❑ Self
❑ Middle School Counselor	❑ Juvenile Justice	❑ School Nurse/Clinic	❑ Special Education	❑ Teacher
❑ Other Student	❑ Alternative School	Name/Phone:		

If student is 18 years or older and signs own consent, answer these questions:

Can information about program be sent to parents? ❑ yes ❑ no

Can information about program be sent to student by mailing to home address? ❑ yes ❑ no

_____ Student initials here.

Project **Chrysalis** is a federally funded grant. For more information, call Stevie Newcomer, Portland Public Schools, Student Services, 280-5840 ext. 283

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C H R Y S A L I S

Needs Assessment

Part I

(For student to complete)

Here are a number of ideas or activities that your Chrysalis Case Manager could assist you with this year. Look through the list and pick three that interests you the most.

"My life would be better if I got some help with....."

- ☐ School work (tutors, books, supplies)
- ☐ Transportation (driver's training, business, bus passes/tickets)
- ☐ Medical and/or dental care (referrals)
- ☐ Participating in school/ after-school activities (fees, equipment, clothing)
- ☐ Getting a job (job placement services, work clothes)
- ☐ Hobbies (supplies, materials, fees for classes)
- ☐ Money to buy some things for myself (clothing, makeup, etc.)
- ☐ Other things like:

When you finish, your Case Manager will have a few follow-up questions for you.

12/7/95

Chrysalis Needs Assessment
Part II
(Case Manager Recording Form)

Once your student has identified the three areas she is most interested in receiving assistance, ask her the following two questions about each area:

1. *What is keeping you from being where you want to be with* _____ ?
2. *What can we do to help you get there?*

Record answers to the above questions for each area below.

Area #1:

_____

Area #2:

_____

Area #3:

_____

Chrysalis Activity Log, Year Two
SAMPLE HIGH SCHOOL - Group 1

Group	Date	Topic	Name, Student	Name, Jessica	Name, Angela	Name, Rachel	Name, Bobbi	Name, Sandy	Name, Kathy	Name, Chris	Name, Patricia	Name, Raven
Session 1	09/28/95	# 1 What is Chrysalis	X	X	X	X	X	X	X	X	X	X
Session 2	10/05/95	# 1 Who are We	X	X	X	X	X	abs	X	X	abs	X
Session 3	10/19/95	# 2 What is Abuse	X	X	X	X	X	X	X	X	X	X
Session 4	10/26/95	# 2 Abuse and Referral	X	X	X	X	X	X	X	abs	abs	X
Session 5	11/02/95	# 3 Journaling	X	X	X	X	X	X	X	X	X	X
Session 6	11/09/95	# 4 Secrets/Trust	X	X	X	X	X	X	X	X	X	abs
Session 7	11/16/95	#10 How We See Ourselves	X	X	X	X	X	X	X	X	X	X
Session 8	11/30/95	#17 Media Literacy	X	X	X	X	X	X	X	abs	X	X
Session 9	12/07/95	# 3 Storytelling	X	X	X	X	X	X	X	abs	X	X
Session 10	12/14/95	# 4 Holiday Exercise	X	X	X	X	X	X	X	X	X	X
Session 11	01/04/96	#18 HIV/AIDS Education	X	X	X	X	X	X	X	X	X	X
Session 12	01/11/96	#22 Female Role Models	X	X	X	X	X	X	X	X	X	X
Session 13	01/18/96	# 5 Storytelling in the Family	abs	X	abs	X	X	X	X	X	X	X
Session 14	02/01/96	# 5 Storytelling	abs	X	abs	X	X	X	X	X	abs	X
Session 15	02/07/96	#15 Girls Empowerment	abs	X	X	X	X	abs	abs	X	X	abs
Session 16	02/08/96	# 8 Boundaries	X	X	abs	X	abs	abs	X	X	X	X
Session 17	02/15/96	# 9 Powerlessness	X	X	X	X	abs	X	X	X	X	X
Session 18	02/22/96	#17 Media Literacy	abs	X	abs	X	X	X	X	X	X	X
Session 19	02/29/96	#18 HIV/AIDS Education	abs	X	abs	abs	X	abs	abs	abs	X	abs
Session 20	03/07/96	#10 How We See Ourselves	X	X	abs	X	abs	abs	X	abs	X	X
Session 21	03/14/96	#11 Intimacy	abs	X	withdrew	X	X	X	X	abs	X	X
Session 22	03/28/96	#18 HIV/AIDS Education	abs	X		X	abs	X	X	abs	X	X
Session 23	04/11/96	# 7 Shame/Blame	X	X	I	abs	X	X	X	abs	abs	X
Session 24	04/14/96	# 7 Depression	X	X	N	X	abs	X	X	abs	abs	X
Session 25	04/18/96	#12 Relationships	X	abs	A	X	X	X	X	X	abs	X
Session 26	04/25/96	#18 HIV/AIDS Education	X	X	C	abs	X	X	X	X	abs	X
Session 27	05/02/96	#14 Challenge Course	abs	X	T	X	X	abs	abs	X	X	X
Session 28	05/09/96	#11 Intimacy/Values	abs	X	I	abs	X	X	X	X	X	X
Session 29	05/16/96	#17 Media Literacy	abs	X	V	X	X	X	X	X	X	X
Session 30	05/22/96	#16 Year End Celebration	abs	X	E	X	X	abs	abs	X	X	X
Session 31	05/23/96	#13 A Celebration of Women	abs	X		X	abs	X	X	X	abs	X

NOTE 1: Write in the date and topic of the weekly Chrysalis group session. A list of topics is provided on the back side of this form.
NOTE 2: Please use a checkmark to indicate student attendance at sessions and mark "abs." to record student absence.

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Directions for Completing Chrysalis Activity Log:

Please complete the Chrysalis Attendance / Activity Log using the following topic numbers and descriptions of group sessions. Case managers should confirm the date and topic of each support group with the Waverly co-facilitator at their school.

TOPIC Support Group Sessions	Recommended Number of Sessions
1 Who are we? What is a Chrysalis?	1-2
2 What is abuse?	1
3 Storytelling	1
4 Secrets/Trust	1-2
5 Storytelling through the family	2
6 Trauma and its effects	2
7 Shame/blame/depression	1
8 Boundaries	1
9 Powerlessness	1
10 How we see ourselves	1-2
11 Intimacy	1-2
12 Sex and relationships	1-5
13 A celebration of women	1

Open Sessions and Other Activities	Recommended Number of Sessions
14 Challenge Course	1
15 Girls Empowerment	1
16 Year End Celebration	1
17 Media Literacy	3
18 HIV/AIDS Education	4
19 Alcohol/Drug Prevention	1
20 Tobacco Awareness	1
21 Eating Disorders/Nutrition	1
22 Female Role Models	1
23 Trust/Team Building	1
24 Student Portfolios/Journalling	1

Case Manager:_____ School:_____ Log for the Month of:_____

Chrysalis

Case Manager's Contact Log

Date	Name of Contact	Type of Role					Type of Activity									Time	Case Manager's Notes
		Student	Parent	School Staff	Community	Other	Student Intake	Consent Forms	1-1 Counseling	Academic Support	Group Follow-up	Opportunities Fund	Crisis Intervention	School Staff Contact	Other	Minutes of Contact	Notes

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Distribution: White—Evaluation Department,BESC Yellow—Case Managers

Portland Public Schools
Project Chrysalis

Risk & Resiliency Index

Developed by:

EMT Associates
Sacramento, California

Adapted for use by:

RMC Research Corporation
Portland Oregon

Spring 1996

The following questions will take approximately 30 minutes to complete. In answering them, we are asking two things of you.

First: We need you to read carefully some questions about you and your family. It is important that you answer every question.

Second: *It is very important* that you answer each question truthfully. Although we have asked you to give us your name, your answers will be kept **completely confidential**, and used to help us be more helpful to you.

Part I

You are going to read a lot of sentences. For each of these sentences, please read along and mark the circle below the answer that is closest to how you feel today about what the sentence says.

Mark in YES! If you believe very strongly that the sentence is true for you, that it is the way you feel almost all of the time.

Mark in yes If you sort of agree that the sentence is true for you, that it is the way you feel most of the time.

Mark in no If you sort of believe the sentence is false for you, that you do not feel that way most of the time.

Mark in NO! If you believe very strongly that the sentence is false, that you almost never feel this way.

Let's practice by reading the following sentence:

I like pepperoni pizza. **YES!** **yes** **no** **NO!**

If you really like pepperoni pizza, it is one of you favorite foods, you would mark **YES!**, if you really don't like it, you can't stand to eat it, you would mark **NO!**. If you sort of like it, you would mark **yes**, if you sort of don't like it, you would mark **no**.

Okay. We are ready to start.

Part I

		YES!	yes	no	NO!
1.	I can tell my parents the way I feel about things	O	O	O	O
2.	I will probably die before I am thirty	O	O	O	O
3.	One of my problems is I cannot get down to work when I should	O	O	O	O
4.	There are people I can depend on to help me if I really need it	O	O	O	O
5.	I get along well with other people	O	O	O	O
6.	If I can't do a job the first time, I keep trying until I can	O	O	O	O
7.	I can be trusted	O	O	O	O
8.	I am afraid my life will be unhappy	O	O	O	O
9.	There is an adult I could talk to about important decisions	O	O	O	O
10.	School is a waste of time	O	O	O	O

		YES!	yes	no	NO!
11.	I give up on things before completing them	O	O	O	O
12.	Bad things happen to people like me	O	O	O	O
13.	Helping others makes me feel good	O	O	O	O
14.	I like to help other people who have helped me	O	O	O	O
15.	My life is all mixed up	O	O		
16.	It is hard for me to make friends	O	O	O	O
17.	When I have something unpleasant to do, I stick to it until I finish it	O	O	O	O
18.	There is a trustworthy adult I could turn to for advice if I were having problems	O	O	O	O
19.	I try hard to do well in school	O	O	O	O
20.	I like to do things with my family	O	O	O	O
21.	I can do most things I try	O	O	O	O

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		YES!	yes	no	NO!
22.	When I decide to do something, I go right to work on it	O	O	O	O
23.	If I study hard, I will get better grades	O	O	O	O
24.	When I am mad, I yell at people	O	O	O	O
25.	If I don't understand something, I will ask for an explanation	O	O	O	O
26.	My friends respect me	O	O	O	O
27.	I always like to do my part	O	O	O	O
28.	People usually like me	O	O		
29.	Sometimes I break things on purpose	O	O	O	O
30.	I am often too embarrassed to ask questions	O	O	O	O
31.	When I try to learn something new, I soon give up if I don't succeed right away	O	O	O	O
32.	There is no one I can depend on for help when I really need it	O	O	O	O

		YES!	yes	no	NO!
33.	It is important to do your part in helping at home	O	O	O	O
34.	I like the way I act	O	O		
35.	I know when I should take responsibility and when I shouldn't	O	O	O	O
36.	If you work hard, you will get what you want	O	O	O	O
37.	There is no adult I feel comfortable talking about my problems with	O	O	O	O
38.	I would like to quit school as soon as I can	O	O	O	O
39.	There are people I can count on in an emergency	O	O	O	O
40.	I enjoy talking with my family	O	O	O	O
41.	Helping others is very satisfying	O	O	O	O
42.	I like the way I look	O	O	O	O
43.	If I feel like it, I hit people	O	O	O	O
44.	I often disappoint people	O	O	O	O
45.	I am responsible for what happens to me	O	O	O	O

Part II

The answers for these questions are different than those we just finished, so we have to read them very carefully. Remember that it is very important that you answer each question. Okay, we are ready to start!

1. **Where you are living now, what adults live with you (shade in all that are true)?**

o	Your mother	o	Your father
o	Your stepmother	o	Your stepfather
o	Other adult relatives such as grandmother or aunt	o	Other adults
		o	I live on my own.

2. **How many brothers/stepbrothers and sisters/stepsisters do you have?** _____

3. **How many children, excluding yourself, live with you at home?** _____

4. **Here is a list of things that are true in some families and not in others. Please answer "yes" if each statement is usually true of your family, and "no" if it is not.**

	yes	no
The rules in our house are clear	o	o
I have a clear time when I have to be home	o	o
I have a regular time and place to do homework	o	o
My parents often do not know where I am	o	o
When I do something wrong, I know what my parents will do	o	o
I have regular chores to do at home	o	o

5. **In the last year have you done the following?**

	yes	no
Go to church or Sunday school or religious services regularly	o	o
Play on organized sports teams for kids	o	o
Belong to any other clubs like Girl Scouts, YWCA, Campfire Girls	o	o
Belong to a gang	o	o

6. **The following list indicates things that might happen to young people, or things that young people might do. Please indicate whether you have done these things three or more times in the *last month*, only once or twice or not at all.**

	3 or more times	Once or twice	Not at all
Got sent to the principal's office or had detention.....	O	O	O
Skipped school for a whole day.....	O	O	O
Purposely damaged other people's property.....	O	O	O
Stole something.....	O	O	O
Got into a fist fight.....	O	O	O
Got stopped by the police.....	O	O	O

7. **Have you ever wished that either one or both of your parents would drink less?**

O Yes O No O No, my parents do not drink

8. **Here are some other things that happen in some families and do not happen in others. Please indicate whether these things happen in your family. If you don't live with your parents, think of the adult(s) who you do live with when we ask about parents.**

- **all the time (that is, every day or almost every day)**
- **often (once a week or so)**
- **not very often (less than once a week)**
- **never**

	All the time	Often	Not very often	Never
My whole family eats dinner together.....	O	O	O	O
Parents or other adults help me with my homework.....	O	O	O	O
I go to a movie or out to dinner with my parents.....	O	O	O	O
My family members argue.....	O	O	O	O
I talk to my parents about school.....	O	O	O	O

Part III

This is the third and final portion of the questionnaire. We will be done soon. Remember, your answers will be kept completely confidential. No one will know how you, as an individual, answered these questions. It is very important that you answer honestly.

Please circle the answer that best describes you for each of the remaining questions on the survey.

The next four questions ask about body weight.

1. How do **you** think of yourself?

   a. Very underweight
   b. Slightly underweight
   c. About the right weight
   d. Slightly overweight
   e. Very overweight

2. Which of the following are you trying to do?

   a. **Lose** weight
   b. **Gain** weight
   c. **Stay** the same
   d. I **am not trying to do anything** about my weight

3. During the past 7 days, which **one** of the following did you do to lose weight or to keep from gaining weight?

   a. I did not try to lose weight or keep from gaining weight
   b. I dieted
   c. I exercised
   d. I exercised and dieted
   e. I used some other method, but I did not exercise or diet

4. During the past 7 days, which **one** of the following did you do to lose weight?

   a. I did not try to lose weight or keep from gaining weight
   b. I made myself vomit
   c. I took diet pills
   d. I made myself vomit and took diet pills
   e. I used some other method, but I did not vomit or take diet pills

The next six questions are about your attitudes and your friends' attitudes toward cigarettes, alcohol, and other drugs.

5. If you use alcohol or other drugs, will you have more health problems than other people?

   a. Yes
   b. Probably
   c. I don't think so
   d. No

6. If I don't use alcohol or other drugs I will be happier.

   a. Strongly agree
   b. Agree
   c. Disagree
   d. Strongly disagree

7. What would your best friends think if you got drunk once in a while?

   a. They would be angry with me
   b. They would be a little upset
   c. They wouldn't care one way or the other
   d. They would accept me
   e. They would be glad

8. Smoking cigarettes fits with the kind of life I want to lead.

   a. Yes, definitely
   b. Yes, probably
   c. Probably not
   d. Definitely not

9. How do you think your closest friends feel about this statement:

   People who use drugs are stupid

   a. Strongly agree
   b. Agree
   c. Disagree
   d. Strongly disagree

10. Getting drunk every now and then fits with the kind of life I want to lead.

    a. Yes, definitely
    b. Yes, probably
    c. Probably not
    d. Definitely not

The next few questions are about <u>CIGARETTES</u>.

11. On how many DAYS did you smoke a cigarette in the <u>LAST MONTH</u> (30 days)?

    a. None
    b. 1 or 2 days in the last month
    c. 3 to 5 days in the last month
    d. 6 to 9 days in the last month
    e. 10 to 19 days in the last month
    f. 20 to 31 days in the last month

12. On the days you smoke cigarettes, how many do you smoke?

    a. Less than 1 cigarette
    b. 1 or 2 cigarettes
    c. 3 to 7 cigarettes
    d. About half a pack of cigarettes
    e. A pack or more of cigarettes
    f. I don't smoke cigarettes

The next questions are about <u>SMOKELESS TOBACCO</u>. By smokeless tobacco, we mean <u>CHEWING TOBACCO OR SNUFF</u>, including Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen.

13. On how many DAYS did you use smokeless tobacco in the <u>LAST MONTH</u> (30 days)?

    a. None
    b. 1 or 2 days in the last month
    c. 3 to 5 days in the last month
    d. 6 to 9 days in the last month
    e. 10 to 19 days in the last month
    f. 20 to 31 days in the last month

14. On the days you used smokeless tobacco, how many times did you use it?

    a. Less than once
    b. 1 or 2 times
    c. 3 to 7 times
    d. 8 to 12 times
    e. More than 12 times
    f. I don't use smokeless tobacco

15. Do you think your best friend smokes cigarettes or uses smokeless tobacco sometimes?

a. Yes
b. No

16. If your friends found out that you smoked cigarettes or used smokeless tobacco, how do you think they'd feel?

a. They would approve
b. The would disapprove but still be my friends
c. The would disapprove and stop being my friends
d. They wouldn't care

17. How would your parents feel if they found out you smoked cigarettes or used smokeless tobacco sometimes?

a. They would not be upset at all
b. They would be a little upset
c. They would be pretty upset
d. They would be very upset

The next few questions are about ALCOHOL. By alcohol, we mean BEER, WINE, WINE COOLERS, GRAIN ALCOHOL, OR HARD LIQUOR. These questions refer to the use of alcohol for other than religious purposes.

18. Do you think your best friend drinks alcohol sometimes?

a. Yes
b. No

19. If your friends found out that you drank alcohol sometimes, how do you think they'd feel?

a. They would approve
b. They would disapprove but still be my friends
c. They would disapprove and stop being my friends
d. They wouldn't care

20. How would your parents feel if they found out you drank alcohol sometimes?

a. They would not be upset at all
b. They would be a little upset
c. They would be pretty upset
d. They would be very upset

21. On how many DAYS did you have an alcoholic drink in the LAST MONTH (30 days)? (By a drink, we mean a can of beer, a glass of wine, a wine cooler, or a shot of hard liquor.) For example, if you drank alcohol each weekend night, that would be 8 days (4 weekends times 2 days each weekend).

a. None
b. 1 or 2 days in the last month
c. 3 to 5 days in the last month
d. 6 to 9 days in the last month
e. 10 to 19 days in the last month
f. 20 to 31 days in the last month

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22. On the days you drink alcohol, about how many drinks do you have? (By drink, we mean a can of beer, a glass of wine, a wine cooler, or a shot glass of hard liquor.)

a. Less than a drink
b. 1 drink
c. 2 drinks
d. 3 or more drinks
e. I don't drink alcohol

The next few questions are about MARIJUANA. (Sometimes called dope, grass, weed, pot, Mary Jane, reefer, plant, bud or chronic.)

23. Do you think your best friend uses marijuana sometimes?

a. Yes
b. No

24. If your friends found out that you used marijuana sometimes, how do you think they'd feel?

a. They would approve
b. They would disapprove but still be my friends
c. They would disapprove and stop being my friends
d. They wouldn't care

25. How would your parents feel if they found out you used marijuana sometimes?

a. They would not be upset at all
b. They would be a little upset
c. They would be pretty upset
d. They would be very upset

26. On how many DAYS did you use any marijuana in the LAST MONTH (30 days)? For example, if you used marijuana each weekend night, that would be 8 days (4 weekends times 2 days each weekend).

a. None
b. 1 or 2 days in the last month
c. 3 to 5 days in the last month
d. 6 to 9 days in the last month
e. 10 to 19 days in the last month
f. 20 to 31 days in the last month

27. On the days you use marijuana, how many times do you use it?

a. Once a day
b. Twice a day
c. 3 or more times a day
d. I don't use marijuana

The next question is about INHALANTS, that is substances inhaled to get high, such as amyl and butyl nitrite (sometimes called poppers, snappers, rush, or hardware) or glue, aerosol sprays, gasoline or lighter fluids, ether, correction or cleaning fluids (inhalants are sometimes called huff, sniff, whiteout, and whippets)

28. On how many DAYS did you use any inhalants in the LAST MONTH (30 days)?

a. None
b. 1 or 2 days in the last month
c. 3 to 5 days in the last month
d. 6 to 9 days in the last month
e. 10 to 19 days in the last month
f. 20 to 31 days in the last month

29. During the last 30 days, have you used any of the following on your own, that is, without a doctor telling you to take them?
Circle the letter of each drug you have used in the last 30 days.

a. COCAINE OR CRACK COCAINE (sometimes called rock, zip, dove, yea, yeo, or candy)
b. HEROIN (sometimes called smack or black tar)
c. HALLUCINOGENS, for example, LSD (sometimes called acid, hit, juice, or star) or peyote, mescaline, psilocybin (called mushrooms, shrumes, tops or fungus), PCP (called angel dust), or MDMA (called ecstasy)
d. AMPHETAMINES (sometimes called speed, crank, ice, pep pills, and diet pills)
e. TRANQUILIZERS, such as Valium, Quaaludes (sometimes called ludes), or Librium (called lib)
f. BARBITURATES (sometimes called downers, yellows, reds or blues)
g. PSYCHEDELICS (LSD, PCP, mescaline, peyote, psilocybin)
h. I did not use any of these drugs in the last 30 days.

The next ten questions cover your feelings about and experiences with using alcohol and other drugs.

30. Pretend your best friend offered you a drink of **beer** or **wine** and you did not want it. How hard would it be to refuse the offer?

a. Very easy
b. Pretty easy
c. Pretty hard
d. Very hard

31. Pretend your best friend offered you a drink of **beer** or **wine** and you did not want it. How sure are you that you could say "no"?

a. Very sure
b. Pretty sure
c. A little unsure
d. Not sure at all

32. Pretend your best friend offered you some **marijuana** and you did not want it. How hard would it be to refuse the offer?

a. Very easy
b. Pretty easy
c. Pretty hard
d. Very hard

33. Pretend your best friend offered you some **marijuana** and you did not want it. How sure are you that you could say "no"?

a. Very sure
b. Pretty sure
c. A little unsure
d. Not sure at all

34. Pretend your best friend offered you some **cocaine** or some other drug and you did not want it. How hard would it be to refuse the offer?

a. Very easy
b. Pretty easy
c. Pretty hard
d. Very hard

35. Pretend your best friend offered you some **cocaine** or some other drug and you did not want it. How sure are you that you could say "no"?

a. Very sure
b. Pretty sure
c. A little unsure
d. Not sure at all

36. In the past year, how often did you ride in a car with a driver who had been drinking?

a. Never
b. Sometimes, but not often
c. Often
d. All the time

37. In the past year, how often did you ride in a car with a driver who had been using drugs, such as **marijuana** or **cocaine**?

a. Never
b. Sometimes, but not often
c. Often
d. All the time

38. In the past year, how often did you use alcohol just before or while attending school?

a. Never
b. Sometimes, but not often
c. Often
d. All the time

39. In the past year, how often did you use drugs, such as **marijuana** or **cocaine**, just before or while attending school?

a. Never
b. Sometimes, but not often
c. Often
d. All the time

The next four questions ask about your experiences with fighting and carrying weapons.

40. In the past year, how many times were you in a physical fight?

a. 0 times
b. 1 time
c. 2 or 3 times
d. 4 or 5 times
e. 6 or more times

41. In the past year, on the days you had a physical fight, did you use alcohol or other drugs?

a. I was never in a fight
b. Yes, I sometimes used alcohol or other drugs
c. Yes, I always used alcohol or other drugs
d. No, I never used alcohol or other drugs

42. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club on **school property**?

a. 0 days
b. 1 day
c. 2 or 3 days
d. 4 or 5 days
e. 6 or more days

43. During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on **school property**?

a. 0 times
b. 1 time
c. 2 or 3 times
d. 4 or 5 times
e. 6 or 7 times
f. 8 or 9 times
g. 10 or 11 times
h. 12 or more times

The next two questions ask about AIDS/HIV education and information.

44. Have you ever been taught about AIDS/HIV infection in school?

a. Yes
b. No
c. Not sure

45. Have you ever talked about AIDS/HIV infection with your parents or other adults in your family?

a. Yes
b. No
c. Not sure

The next twelve questions ask about sexual behavior.

46. Have you ever had sexual intercourse?

a. Yes
b. No

47. Have you ever been sexually abused?

a. Yes
b. No

48. How old were you when you had sexual intercourse for the first time?

a. I have never had sexual intercourse
b. Less than 12 years old
c. 12 years old
d. 13 years old
e. 14 years old
f. 15 years old
g. 16 years old
h. 17 or more years old

49. Was the first time you had sexual intercourse an abusive incident?

a. Yes
b. No

50. During your life, with how many people have you had sexual intercourse?

a. I have never had sexual intercourse
b. 1 person
c. 2 people
d. 3 people
e. 4 people
f. 5 people
g. 6 or more people

51. During the **past 3 months**, with how many people did you have sexual intercourse?

a. I have never had sexual intercourse
b. I have had sexual intercourse, but not during the past three months
c. 1 person
d. 2 people
e. 3 people
f. 4 people
g. 5 people
h. 6 or more people

52. Did you drink alcohol or use other drugs before you had sexual intercourse the **last time**?

a. I have never had sexual intercourse
b. Yes
c. No

53. The **last time** you had sexual intercourse, did you or your partner use a condom?

a. I have never had sexual intercourse
b. Yes
c. No

54. The **last time** you had sexual intercourse, what **one** method did you or your partner use to **prevent pregnancy?** (Select **one** response.)

a. I have never had sexual intercourse
b. No method was used to prevent pregnancy
c. Birth control pills
d. Condoms
e. Withdrawal
f. Some other method
g. Not sure

55. How many times have you been pregnant?

a. 0 times
b. 1 time
c. 2 or more times
d. Not sure

56. Are you pregnant now?

a. Yes, I'm sure I am.
b. I think I may be, but I'm not sure.
c. No, I'm not.

57. Have you ever been told by a doctor or nurse that you have a sexually transmitted disease such as genital herpes, genital warts, chlamydia, syphilis, gonorrhea, AIDS, or HIV infection?

a. Yes
b. No

Sometimes people feel so depressed and hopeless about the future that they may consider attempting suicide, that is, taking some action to end their own life. The next four questions ask about these kinds of experiences in your life in the past year.

58. During the past 12 months, did you ever **seriously** consider attempting suicide?

a. Yes
b. No

59. During the past 12 months, did you make a plan about how you would attempt suicide?

a. Yes
b. No

60. During the past 12 months, how many times did you actually attempt suicide?

a. 0 times
b. 1 time
c. 2 or 3 times
d. 4 or 5 times
e. 6 or more times

61. If you attempted suicide during the past 12 months, did any attempt result in a injury, poisoning, or overdose that had to be treated by a doctor or nurse?

a. I did not attempt suicide during the past 12 months
b. Yes
c. No

62. How honestly have you answered the questions on this survey?

a. Very honestly
b. Somewhat honestly
c. Dishonestly

This completes the questionnaire. Thank you for your open and honest answers to all of these questions.

CHRYSALIS CASE STUDY
INITIAL INTERVIEW PROTOCOL

Hello. I am (name) with Portland Public Schools Evaluation Department. I would like to talk with you about your participation in the Chrysalis program. Here is a brief fact sheet about the case study. Your responses and honesty can help us understand what works best about the program and how you think it can be improved for other young women. We'll meet every month and discuss some of your current concerns. These questions should take about 30 minutes. The information you tell me is confidential and your privacy will be protected. I would like to make a few notes during our conversation as a reminder for me; is that okay? Do you have any questions before we start?

1a.	Do you have a nickname?	What do people usually call you?
b.	How old are you?	When is your birthday?
c.	What is your father's name?	Occupation
d.	What is your mother's name?	Occupation
e.	Do you have any brothers or sisters?	Ages Names
f.	What are their names?	

2a.	What grade are you in school?	School
b.	What subjects are you taking?	
c.	What subjects are easiest?	
d.	What are you having trouble in?	
e.	What do you like most about school?	
f.	What do you like least about school?	

3a. What do you usually do after school?
b. What do you like to do best of all?
c. What are your hobbies?
d. What kind of books do you like to read?
e. What movies have you seen which you like?
f. What clubs (teams, church groups) do you belong to?

4. Tell me how you first learned about the Chrysalis program and started to be involved in it? (who, what, where, etc.)

5. How long have you been involved in the Chrysalis program?

6a. Suppose you could have three wishes and ask for anything you wanted, what would you ask for? What would you wish for most of all? (* highest priority wish)
1.
2.
3.
b. Suppose you could change people. How would you change yourself?
c. How would you change your father? How would you change your mother?

7. If you could have your choice, how old would you like to be? Older than you are now? Younger? The same age? Why?

8a. Tell me three things you definitely know are true.
1.
2.
3.

b. Three things you know are impossible.
1.
2.
3.

9. Every new program in schools offers something special to help students. So far, what is your impression of the Chrysalis program? What does it have to offer you?

10. Think back as far as you can. Tell me the first thing you remember in your life. (If not indicated...How old were you when it happened?)

11. What's the scariest thing that ever happened to you? (car accident, fire, etc.)

12a. Who do you think was the greatest person in the history of the world? Why?
12b. Who do you think was the worst person who ever lived? Why?

13. What do you do best of all?

14. When you (leave school/are grown up/get older) what would you like to be? Why?

15a. No one is perfect; everybody has some good and some bad in him, some things we like about people and some things we don't like. (Tell me some things you <u>like</u> about yourself.)
15b. Tell me some things you <u>do not like</u> about yourself. (Tell me the worst thing about yourself)

16. Do you ever feel that you would like to change places with someone? Tell me about it.

17a. Everyone gets angry or mad sometimes. What makes you angry or lose your temper?
17b. When you get angry, what do you do?
17c. What do your parents or others you live with do to get you angry?
17d. What does your brother/sister do to get you angry?
17e. What does your teacher do to get you angry?
17f. What do you do to make them angry at you?

18. Everyone feels unhappy/sad sometimes. What makes you feel that way? What sort of things make you cry?

19. What would you say is your greatest worry? Tell me about it.

20. For you, what has been the most important part of the project so far? (your favorite event, most meaningful discussion, what you look forward to doing, etc.)

FOLLOW-UP INTERVIEW PROTOCOL

These questions will be asked of all case study program group participants, but the sequence and length of the interview questions and probes will be left to the discretion of the researcher.

Theme A. How important is Chrysalis compared with other life events in influencing whether and how students change?

A1. I'd like to know about some of the things going on in your life since the last time we talked (or during the last 3 months) tell me what, if any, changes happened in:
- the people you live with (household composition)
- your best friend
- peer group/significant relationship
- activities (school and other) you participate in
- school (classes, work-load, grades, schedule, attendance, attitude, effort)
- involvement with agencies (juvenile justice, CSD)
- health (including pregnancy)
- work experiences (if applicable)

A2. I see there is a lot going on in your life and Chrysalis is just one small part. Compared with these other things, how important do you think Chrysalis is to the way you think about things? (at exit--How important do you think Chrysalis is to how you've changed in the past two years?)

A3. What are the things which have had the most influence on you (i.e., the way you think about things, how you've changed) during this period?

A4. What was your personal goal(s) during your involvement with this project? To what extent do you feel you met those goals?

A5. How does the program/support group/activities compare with others you may have participated in previously?

A6. How would you describe the difficulties of learning to live with and recover from child physical/sexual abuse? For example, do you have problems with school, family, friends, dating, relationships, expectations for your future, etc.

A7. What changes did you have to make in your attitude or behavior to deal with the issues addressed in the program (physical/sexual abuse)?

A8. Would you recommend participation in the program to others? Why or why not?

A9. In what ways did your involvement in this program change you?

Theme B. How important are the various components to the overall Chrysalis package?

B1. Can you tell me generally what kind of topics or discussions you are having in Chrysalis in the last few weeks? (topics, events. etc.)

B2. What do you expect to learn from your involvement in this program?

B3. What are the best parts of Chrysalis and why? (prompts: What is the most fun? What did you learn the most from? What had the greatest impact?)

B4. What is your current attitude towards participation in Chrysalis? What are your parents and friends attitudes towards your participation in Chrysalis?

B5. If the district weren't able to offer the entire Chrysalis program, what would be the best components to drop?

- support groups
- open session topics
- case management
- girls empowerment
- challenge course
- year end celebration

B6. How well was the program implemented in your experience? (What were the positive side effects? What were the negative side effects?)

B7. What should be changed in the program to make it more useful? Would you change or adapt the way activities are done in your school?

Theme C. How engaged, committed, and honest are participants with the project?

C1. Do you think girls in your group are honest when they talk 1-to-1 with the case manager?

C2. How open/honest are the other kids when they talk in group? Give me an example, without using any names, of a student who may have not been honest in group? What effect does that have on everyone?

C3. Are students generally honest when they respond to Chrysalis evaluation questionnaires? If you think students are not honest, can you tell me why?

C4. Can you give me an example of the kind of question we ask that a student might not want to respond to honestly?

C5. Is there anything we should do differently to make students more comfortable in answering our questions? (prompts: administration protocols, confidentiality measures)

Theme D. What is the best target group for Chrysalis? Why are some students more successful than others?

D1. What kinds of students do you think are likely to get the most from Chrysalis? (prompts: age, ethnicity, personality traits, history)

D2. Are there some students that Chrysalis is not likely to work for?

D3. How well do you think Chrysalis has worked for you? What would make it better?

D4. What is your overall impression of what you got out of the program?

D5. To what extent are you satisfied with your success/progress in the program?

Theme E. Serendipity

E1. Tell me something you think I don't already know about Chrysalis.

E2. What was the most challenging part of this project for you? (most difficult or demanding)

E3. For you, what was the most important issue you discussed at Chrysalis?

E4. Have you ever felt tense, upset, or uncomfortable about your participation in the project? Tell me about it.

E5. On a scale from 1 (low) to 5 (high), do you feel a greater sense of personal strength and confidence based on your participation in Chrysalis?

E6. What unexpected things did you learn during your experience with the Chrysalis program?

E7. What is the most successful thing about Chrysalis?

E8. What is the least successful thing about Chrysalis?

E9. What changes would you recommend in the program?

E10. Any other comments?

Probes:

What do you mean?
Could you tell me more about that?
Will you tell me what you have in mind?
I am not sure I understand what you have in mind.
Why do you think this is so?
Could you tell me why you feel this way?
What do you think causes that?
Anything else?
What would your mom/dad or significant parent figure think if you did that?

Girls Empowerment Pre-Training Questionnaire

Name: _____ Grade: _____

School: _____ Date: _____

1. Please rate your knowledge of these topics:	Very Good	Good	Some	Very Little
a. physical/sexual abuse prevention	○	○	○	○
b. date rape intervention	○	○	○	○
c. sexual harassment	○	○	○	○
d. domestic violence	○	○	○	○

2. Please mark your ability to do these self-defense skills:	Can do easily	Can do a lot	Can do a little	Can not do it
a. yells	○	○	○	○
b. hand strikes	○	○	○	○
c. kicks	○	○	○	○
d. wrist grab escapes	○	○	○	○
e. choke hold escapes	○	○	○	○
f. body grasp escapes	○	○	○	○
g. verbal assertiveness	○	○	○	○

3. Please rate your confidence if you were in these situations:	Very Good	Good	Fair	Very Poor
a. walking alone to and from school	○	○	○	○
b. walking down the street alone	○	○	○	○
c. walking alone, having a car stop and being told to get in	○	○	○	○
d. being aware of some safe places nearby	○	○	○	○
e. knowing how to deal with problem situations on a date	○	○	○	○
f. knowing how to deal with problem situations on the street	○	○	○	○
g. knowing how to deal with problem situations in the halls and classrooms at school	○	○	○	○

THANK YOU!!

Project Code #:

Girls Empowerment Feedback Form

1. As a result of the class, were you able to:	Yes	Some	No
a. gain new skills and knowledge	○	○	○
b. gain awareness of your own strength	○	○	○
c. feel capable, confident, and empowered	○	○	○
d. feel ready to practice self-defense skills on your own	○	○	○

2. Please rate your knowledge of these topics:	Very Good	Good	Some	Very Little
a. physical/sexual abuse prevention	○	○	○	○
b. date rape intervention	○	○	○	○
c. sexual harassment	○	○	○	○
d. domestic violence	○	○	○	○

3. Please mark your ability to do these self-defense skills:	Can do easily	Can do a lot	Can do a little	Can not do it
a. yells	○	○	○	○
b. hand strikes	○	○	○	○
c. kicks	○	○	○	○
d. wrist grab escapes	○	○	○	○
e. choke hold escapes	○	○	○	○
f. body grasp escapes	○	○	○	○
g. verbal assertiveness	○	○	○	○

4. Please rate your confidence if you were in these situations:	Very Good	Good	Fair	Very Poor
a. walking alone to and from school	○	○	○	○
b. walking down the street alone	○	○	○	○
c. walking alone, having a car stop and being told to get in	○	○	○	○
d. being aware of some safe places nearby	○	○	○	○
e. knowing how to deal with problem situations on a date	○	○	○	○
f. knowing how to deal with problem situations on the street	○	○	○	○
g. knowing how to deal with problem situations in the halls and classrooms at school	○	○	○	○

5. What was your most favorite part of the class? _____

6. What was your least favorite part of the class? _____

7. Would you like to take an advanced self-defense class? (circle one) ..... Yes Maybe No

Thank you for joining the Girls Empowerment class.
Stay safe. ☺

Project Chrysalis
Challenge Course Questionnaire (pre and post)

Name: _____ Grade: _____

School: _____ Date: _____

Please read the following sentences. Choose the response that best describes your feelings today. Mark only one response for each statement. Thank you.

	YES!	yes	no	NO!
1. I prefer games involving some luck over games requiring pure skill	○	○	○	○
2. I can learn almost anything if I set my mind to it	○	○	○	○
3. Competition encourages excellence	○	○	○	○
4. The extent of personal achievement is often determined by chance	○	○	○	○
5. Despite my best efforts I have few worthwhile accomplishments	○	○	○	○
6. If I need help in carrying out a plan of mine, it's usually difficult to get others to help	○	○	○	○
7. I find it easy to play an important part in most group situations	○	○	○	○
8. I always like to do my part	○	○	○	○
9. I like to help other people who have helped me	○	○	○	○
10. I know when I should take responsibility and when I shouldn't	○	○	○	○

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APPENDIX F

Evaluation Summary of Chrysalis Components:

- Girls Empowerment
- Challenge Course

Project Chrysalis
Evaluation of the Girls Empowerment Program, 1995-96

This report summarizes the evaluation of the Girls Empowerment Program sponsored by the Portland Public Schools Chrysalis Project. The program trains young women in grades nine through twelve in self-defense strategies and empowerment activities designed to build skills and confidence in their ability to handle potentially unsafe situations. The program is targeted for adolescent women who have been victims of childhood physical, sexual, or psychological abuse. It developed from the Portland Police Department's Womens' Strength Program.

The Girls Empowerment course is one of several components of Project Chrysalis. The program focuses on developing increased resilience in young women through training in physical safety and empowerment. The six-hour class curriculum is composed of: 1) prevention activities designed to involve and empower students with ownership and responsibility in a various situations, 2) linkages with community-based Women's Strength programs, and 3) pre and post-training evaluations designed to measure participant's knowledge, skills and confidence on personal safety.

The goal of Girls Empowerment is to develop strategies to promote personal safety in high school-aged young women who are survivors of childhood abuse. Specifically, the goals are:

- Build new skills and knowledge about personal safety
- Assist adolescent women in gaining awareness of their own strength
- Assist adolescent women in feeling capable, confident, and empowered
- Energize adolescent women to continue these personal safety efforts

During the second year of the Chrysalis Project, a total of 96 female students in grades nine through twelve participated in the Girls Empowerment training class. This number is approximately 51% of young women participating in the Chrysalis intervention group. Six training classes were held between October 1995 and February 1996. All twelve high schools offered girls empowerment training to program participants, their mothers and other female family members.

The 1995-96 evaluation findings indicate that participants in Chrysalis Girls Empowerment training gained new skills and confidence in all 18 categories measured. Approximately 90% of the participants reported they learned new skills and knowledge. Over 80% of the students reported they gained new awareness of their own strength, felt capable and empowered. The greatest increases in knowledge were in how to deal with date rape situations (+.61) and prevention of physical/sexual abuse (+.53). The greatest increases in skills were in body grasp escapes (+.90), choke hold escapes (+.86), wrist grasp escapes (+.83), verbal assertiveness (+.76), and hand strikes (+.74). The greatest increase in confidence was in dealing with potentially dangerous encounters on the street (+.47). Sixty-six percent of the participants (n=56) reported they would like to take an advanced self-defense class.

Portland Public Schools - Project Chrysalis, 1995-96
Summary of Girls Empowerment Pre-Post Training Evaluation (N = 84)

1. As a result of the class, were you able to:

	Yes		*Some*		*No*	
	Number	Percent	Number	Percent	Number	Percent
a. gain new skills and knowledge	75	89.3	8	19.5	1	1.2
b. gain awareness of your own strength	69	82.1	14	16.7	1	1.2
c. feel capable, confident, and empowered	67	80.7	16	19.3	0	0
d. feel ready to practice self-defense skills on your own	59	70.2	25	29.8	0	0

2. What was your most favorite part of the class? (rank order)

Kicks/kick variations (24)
(knee kicks; grab kick; lower body kicks; groin kicks)
Punching/striking the mats (21)
Learning new self-defense skills (10)
(learned how to fight; learned to do things; learned skills; physical learnings; learned new things; learned defense tactics; learned how to correctly do things; learned moves; learned all that's needed)
Physical activity (8)
Yelling (8)
Lunch/food (6)
Hand strikes/active hits (6)
Everything (3)
Discussion (3)
Instructors, practice
Information
Hands on
Information on prevention
Beating up on someone
Eye, throat
Yelling to get anger out
Everything was excellent & fun!

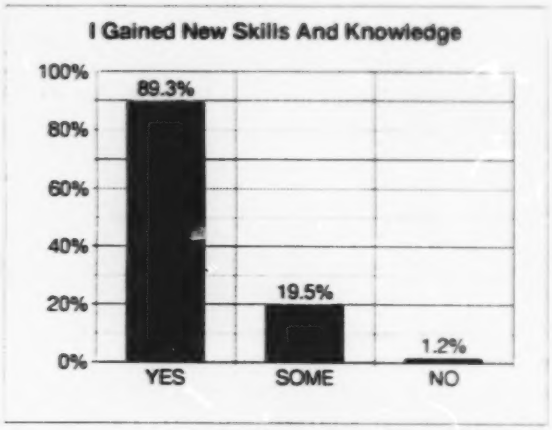
3. What was your least favorite part of the class? (rank order)

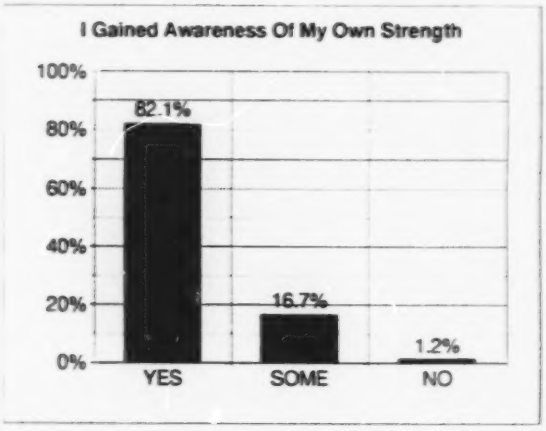
Nothing (16)
Kicks/kick variations (16)
(back kick; kicking the air slowly; kicking knees & groin; side kicks; individual kicks; some of the kicks were kind of hard; floor kicks)
Yelling (6)
The discussions (4)
The talk from the other students (4)
Sitting (3)
Too much exercise (tired) (2)
Physical activities after eating lunch (2)
The class ending (2)
Running (2)
Rude instructor (2)
Sharing thoughts (2)
Waiting so long for lunch
Voice hurts from yelling wrong
Role playing
Jefferson kids didn't respect us
Not enough time to smoke
Hand strikes
Morning part
Having to wake up
Body grabs
Elbow
Getting hurt
Punches in air
Working out
Repetitive exercises

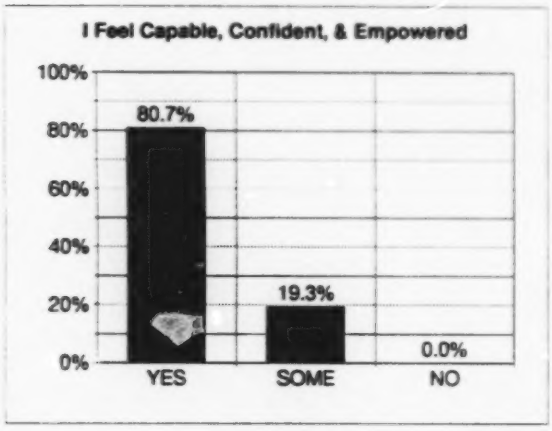
4. Would you like to take an advanced self-defense class?

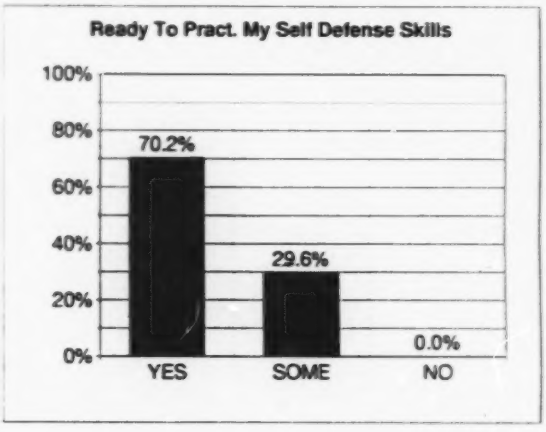
	Number	Percent
Yes	56	65.9
Maybe	25	29.4
No	4	4.7

Chrysalis Girls Empowerment, 1995-96









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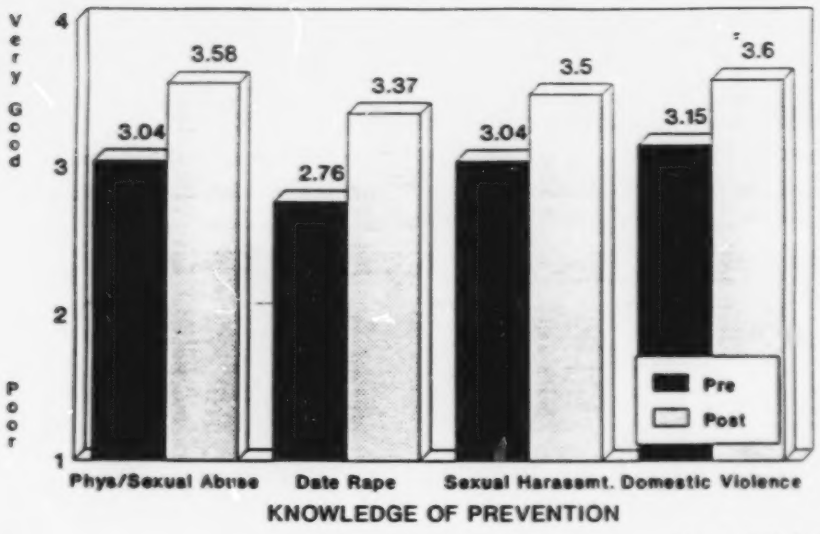
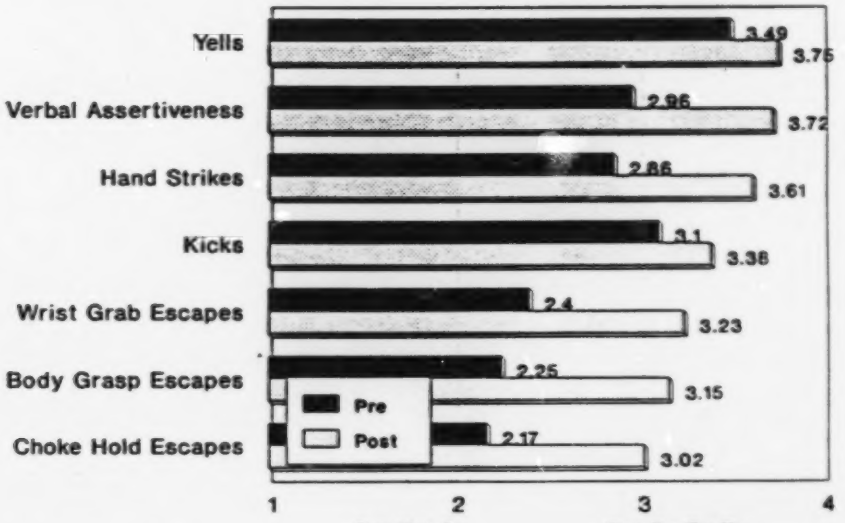
Chrysalis Girls Empowerment, 1995-96
Mean Scores on Knowledge of Prevention



March 1996 (n=96)

Chrysalis Girls Empowerment, 1995-96
Mean Scores for Physical Safety Skills



March 1996 (n=96)

Portland Public Schools - Project Chrysalis

Summary of Girls Empowerment Knowledge, Skills, and Confidence, 1995-96

Rating of Knowledge	Pre-test				Post-test				Summary Statistics			
	VeryGood	Good	Some	VeryLittle	VeryGood	Good	Some	VeryLittle	N	Pre Mean	Post Mean	Change
Physical/sexual abuse prevention	35.1% (33)	45.7% (43)	13.8% (13)	5.3% (5)	61.7% (58)	34.0% (32)	0.0% (0)	1.1% (1)	94	3.04	3.58	0.53
Date rape intervention	25.8% (24)	40.9% (38)	25.8% (24)	7.5% (7)	51.6% (48)	34.4% (32)	11.8% (11)	0.0% (0)	93	2.76	3.37	0.61
Sexual harassment	38.5% (37)	37.5% (36)	15.6% (15)	6.3% (6)	56.3% (54)	34.4% (33)	3.1% (3)	1.0% (1)	96	3.04	3.50	0.46
Domestic violence	40.6% (39)	39.6% (38)	15.6% (15)	2.1% (2)	68.8% (66)	19.8% (19)	4.2% (4)	2.1% (2)	96	3.15	3.60	0.45

Rating of Skills	Pre-test				Post-test				Summary Statistics			
	Can Do Easily	Can Do A Lot	Can Do A Little	Can Not Do It	Can Do Easily	Can Do A Lot	Can Do A Little	Can Not Do It	N	Pre Mean	Post Mean	Change
Yells	75.3% (70)	10.8% (10)	12.9% (12)	1.1% (1)	80.6% (75)	14.0% (13)	3.2% (3)	0.0% (0)	93	3.49	3.75	0.26
Hand strikes	45.7% (42)	19.6% (18)	22.8% (21)	12.0% (11)	73.9% (68)	17.4% (16)	6.5% (6)	0.0% (0)	92	2.86	3.61	0.74
Kicks	51.6% (49)	22.1% (21)	16.8% (16)	7.4% (7)	54.7% (52)	28.4% (27)	11.6% (11)	0.0% (0)	95	3.10	3.38	0.28
Wrist grab escapes	29.2% (28)	11.5% (11)	33.3% (32)	21.9% (21)	52.1% (50)	20.8% (20)	17.7% (17)	3.1% (3)	96	2.40	3.23	0.83
Choke hold escapes	20.2% (19)	12.8% (12)	37.2% (35)	27.7% (26)	44.7% (42)	23.4% (22)	20.2% (19)	6.4% (6)	94	2.17	3.02	0.86
Body grasp escapes	27.2% (25)	10.9% (10)	32.6% (30)	28.3% (26)	51.1% (47)	25.0% (23)	15.2% (14)	5.4% (5)	92	2.25	3.15	0.90
Verbal assertiveness	43.6% (41)	24.5% (23)	23.4% (22)	7.4% (7)	79.8% (75)	12.8% (12)	3.2% (3)	0.0% (0)	94	2.96	3.72	0.76

Rating of Confidence	Pre-test				Post-test				Summary Statistics			
	VeryGood	Good	Fair	VeryPoor	VeryGood	Good	Fair	VeryPoor	N	Pre Mean	Post Mean	Change
Walking to/from school	48.4% (45)	32.3% (30)	17.2% (16)	2.2% (2)	67.7% (63)	23.7% (22)	4.3% (4)	0.0% (0)	93	3.27	3.54	0.27
Walking alone on street	40.9% (38)	36.6% (34)	18.3% (17)	4.3% (4)	60.2% (56)	28.0% (26)	7.5% (7)	0.0% (0)	93	3.14	3.43	0.29
Stranger in car stops you	34.4% (32)	31.2% (29)	21.5% (20)	12.9% (12)	43.0% (40)	37.6% (35)	12.9% (12)	3.2% (3)	93	2.87	3.17	0.30
Awareness of safe places	48.4% (45)	32.3% (30)	11.8% (11)	7.5% (7)	60.2% (56)	23.7% (22)	10.8% (10)	1.1% (1)	93	3.22	3.34	0.13
Encounters on a date	48.9% (45)	26.1% (24)	14.1% (13)	10.9% (10)	63.0% (58)	28.3% (26)	5.4% (5)	0.0% (0)	92	3.13	3.48	0.35
Encounters on the street	32.6% (30)	33.7% (31)	26.1% (24)	7.6% (7)	58.7% (54)	29.3% (27)	7.6% (7)	0.0% (0)	92	2.91	3.38	0.47
Encounters at school	37.6% (35)	40.9% (38)	15.1% (14)	6.5% (6)	67.7% (63)	21.5% (20)	5.4% (5)	0.0% (0)	93	3.10	3.46	0.37

NOTE: Means are based on a 4-point scale: Rating of knowledge is 4=very good, 3=good, 2=some, and 1=very little. Means for rating of skills are 4=can do easily, 3=can do a lot, 2=can do a little, and 1=can not do. Means for rating of confidence are 4=very good, 3=good, 2=fair, and 1=very poor.

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Project Chrysalis Challenge Course, Year Two

Means and Standard Deviations on Four Protective Factor Subscales

Locus of Control Survey with Program Students Only

Protective Factor Subscales	No. of Items	Summary Statistics: Pretest N	Pretest Mean	Pretest St.Dev.	Posttest N	Posttest Mean	Posttest St.Dev.	Change
Personal Efficacy	5	57	2.68	0.52	46	2.81	0.51	0.12
Interpersonal Control	2	58	2.91	0.24	48	3.16	0.20	0.25
Social Competence/Confidence	1	58	3.45	0.00	46	3.67	0.00	0.23
Social Competence/Cooperation	2	58	3.67	0.07	46	3.76	0.07	0.09

Summary of Challenge Course Survey, Year Two

Item Analysis of Pre and Posttest Survey Responses

Item	Pretest YES!	Pretest yes	Pretest no	Pretest NO!	Posttest YES!	Posttest yes	Posttest no	Posttest NO!	Summary Statistics: Pre Mean	Post Mean	Change
I prefer games involving some luck over games requiring pure skill.	24.1% (13)	63.0% (34)	9.3% (5)	3.7% (2)	19.1% (9)	46.8% (22)	23.4% (11)	10.6% (5)	1.93 (54)	2.26 (47)	0.33
I can learn almost anything if I set my mind to it.	58.6% (34)	36.2% (21)	3.4% (2)	1.7% (1)	67.4% (31)	30.4% (14)	2.2% (1)	0.0% (0)	3.52 (58)	3.65 (46)	0.13
Competition encourages excellence.	25.9% (15)	46.6% (27)	17.2% (10)	10.3% (6)	39.1% (18)	37.0% (17)	19.6% (9)	4.3% (2)	2.88 (58)	3.11 (46)	0.23
The extent of personal achievement is often determined by chance.	14.0% (8)	40.4% (23)	31.6% (18)	14.0% (8)	23.9% (11)	28.3% (13)	30.4% (14)	17.4% (8)	2.46 (57)	2.41 (46)	-0.04
Despite my best efforts I have few worthwhile accomplishments.	14.3% (8)	32.1% (18)	28.6% (16)	25.0% (14)	19.1% (9)	27.7% (13)	25.5% (12)	27.7% (13)	2.54 (56)	2.62 (47)	-0.03
If I need help in carrying out a plan, it may be difficult to get others to help.	10.3% (6)	32.8% (19)	36.2% (21)	20.7% (12)	10.4% (5)	20.8% (10)	31.3% (15)	37.5% (18)	2.67 (58)	2.96 (48)	0.29
I find it easy to play an important part in most group situations.	39.7% (23)	41.4% (24)	13.8% (8)	5.2% (3)	59.6% (28)	25.5% (12)	6.4% (3)	8.5% (4)	3.16 (58)	3.36 (47)	0.21
I always like to do my part.	48.3% (28)	48.3% (28)	3.4% (2)	0.0% (0)	71.7% (33)	23.9% (11)	4.3% (2)	0.0% (0)	3.45 (58)	3.67 (46)	0.23
I like to help other people who have helped me.	74.1% (43)	25.9% (15)	0.0% (0)	0.0% (0)	83.0% (39)	17.0% (8)	0.0% (0)	0.0% (0)	3.74 (58)	3.83 (47)	0.09
I know when I should take responsibility & when I should not.	63.8% (37)	32.8% (19)	3.4% (2)	0.0% (0)	73.3% (33)	24.4% (11)	0.0% (0)	2.2% (1)	3.60 (58)	3.69 (45)	0.09

NOTE: Means for items 1 and 4-6 are based on a 4-point scale (NO=4, no=3, yes=2, and YES=1).
NOTE: Means for items 2, 3, and 7-10 are based on a 4-point scale (YES=4, yes=3, no=2, and NO=1).

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